THE

Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY N. S. DAVIS.

PUBLISHED WEEKLY.

Vol. V. CHICAGO, AUGUST 1, 1885. No. 5.

ORIGINAL ARTICLES.

RESUME OF DR. J. MORTIMER GRANVILLE'S BOOK ON NERVE VIBRATION AND EXCITATION, WITH NOTES OF CLINICAL EXPERIENCE WITH THE PERCUTEUR.[1]

BY ASA F. PATTEE, M.D.,

OF BOSTON, MASS.,

PROF. MATERIA MEDICA AND THERAPEUTICS COLLEGE OF PHYSICIANS AND SURGEONS, AND LECTURER ON DISEASES OF THE NERVOUS SYSTEM.

My object in reading this paper is to introduce more generally to the American medical profession the ideas of the somewhat eminent English physician and author, J. Mortimer Granville, M.D., on nerve diseases and their treatment, as set forth in his recently published book entitled "Nerve Vibration and Excitation." Dr. Granville has for the past ten years or more been before the English medical profession as an investigator and author; and his contributions to the *London Lancet* have attracted the attention of scientific minds in this country, as well as in Europe; and looking upon this book as the accumulated evidence which can come only after years of study and experiment, it may well be regarded as a valuable epitome.

The earnestness and enthusiasm which he evidently feels in his labor, must be his excuse for the minutiæ and repetition of detail, as well as for the proclivity which his theories frequently exhibit of asserting themselves as *facts* upon the slightest provocation. In this paper I shall freely use the author's own words, as best illustrating what he would have us understand to be his meaning; but in the application, or treatment, I shall give only my own clinical experiments and their results.

We must look upon Dr. Granville as the originator of this idea of mechanical nerve-vibration as a curative agent in nerve troubles; and there can be no doubt that his theories, if they should prove correct, will throw much light upon the mysteries of many of the nervous phenomena. His argument, as taken from various parts of the book, and arranged systematically, is as follows: "When nervous tissue acts, its essential elements, viz.:—cells and fibres—vibrate. It follows that by throwing these elements into vibration by mechanical movement, we establish a condition favorable to the discharge of nervous force from the centres affected, and at the same time stimulate the nerve-centre when discharged, to develop new force, to compensate for the loss of energy expended in exercise. . . . Cells vibrate as bodies suspended in the intercellular stroma of the gray matter; and fibres vibrate as delicately poised rods, or strung cords within the partile cylinders, formed by internal prolongations of the neurilemma, or sheath."

"When deposits take place in the progress of disease, in the interstices of a nervous cell-bed, or between or upon the layers, or partition walls of a nerve sheath, or when the connective tissue forming the framework of a nervous structure proliferates, the vibrations of cell or fibre are mechanically prevented, and the discharge, or transmission of nervous force from a centre, or along a nerve, becomes physically impracticable. . . . . Normal vibrations consist of movements of the constituent parts of a nerve within its sheath, and when these become inordinate, or disorderly, they are propagated to the sheath itself, and then become painful."

"Under this last-mentioned condition, the wave of vibration is likely to be propagated along the sheath of the nerve, and through it to the sheaths of other nerves with which the first in order of disturbance may be mechanically related, either by direct contact, or through intervening tissues. . . . ."

"It is necessary at the outset to distinguish between vibration and excitation. The former does not always—though it does generally—involve, or induce the latter; and the latter—that is, excitation of a nerve—may probably be affected by other means than by vibration, even when a vibratile body, or instrument is employed, to excite the nerve; although the nerve is undoubtedly thrown into a state of vibration as soon as it becomes excited." He explains this seeming paradox as follows: "When the practical physiologist (the only interrogator of nature whose results are wholly worthy, and entirely trustworthy, I mean the vivisectionist)—draws his needle with a light hand across the sheath of a nerve, or presses the point of his instrument upon it steadily, he excites the nerve or centre; which means that he throws it into vibration."

He says, in corroboration of this: "Every organ in the body, from the liver to the testicle, may, in the absence of utterly disabling organic disease, be made to perform its proper function by exciting the nerve which supplies it with energy, by mechanical vibration."

[1] Read in the Section on Practical Medicine, Materia Medica and Therapeutics, at the Thirty-sixth Annual Meeting of the American Medical Association.

Though this statement sounds somewhat extravagant and premature, when we consider that this conclusion has been arrived at through the experience of but one man, and that, too, in support of a theory of his own, yet he hastens to confirm it by the following statement: "In this way I have seen the liver unloaded, and what seemed to be inveterate torpidity of the bowels remedied in a few successive vibrations."

I think every one will concur with me in praying that so far as the inveterate torpidity of the intestines is concerned, this statement may hold good. In connection with this, I will give here his "notion" of morbid activity: "My notion of morbid activity is this: I believe, as previously affirmed, that under normal conditions, when a nerve-cell or fibre becomes active,—the one in receiving impressions, or discharging force, the other in transmitting sensory impressions, or reflex or direct motor impulses,—the essential elements of the nervous tissue vibrate mechanically in their beds or cylinders. When either the vibration of cell or nerve are unrhythmical in themselves or discordant with the vibrations of other cells or nerves, which they may either throw into disorder, or inhibit (and perhaps this is the true explanation of the inhibitory process), they propagate the commotion the disturbance has set up to their sheaths, or envelops, and the activity becomes disorderly and painful." Now this is, of course, simple conjecture, and ere we endorse it as "the true explanation of the inhibitory process," it would be wise to treat it after the direction we sometimes see on the bottle of some unfortunately compounded prescription: "To be well shaken before taking." At least for the present it certainly ought to be labelled "unknown" and put aside for future investigation, with several other ingenious ideas which vibrated the author's brain at that time.

In the chapter devoted to the conditions in which this instrument may be advantageously used, he gives us his definition of that condition known as "pain." I will quote only sufficient to make plain his meaning, collecting them *en masse*, as they are somewhat disconnected: "If I am right in my theory that pain occurs when the vibration of the essential elements of nervous tissue extends to the beds of cells, and the sheaths of nerve fibres, it is easy to understand how compression of a nerve,—either by force applied directly to its trunk, as when the ulnar nerve is squeezed as it passes behind the inner condyle of the humerus, or by distension of the surrounding tissue, from congestion of the vessels,—or by effusion,—causes pain, and why the pain is proportioned to the constriction, short of extreme pressure, which must, of course, altogether prevent vibration of the nerve affected. As the nerve is compressed, its sheath is forced in upon the nerve elements, and necessarily becomes irritated by their disorderly vibrations." As foundation for the support of this theory, he argues as follows: "Without such an explanation as this theory of pain affords, it has always seemed to me unaccountable that so little pressure,—a very little at the most,—as can be caused by the congestion of a swollen finger, should occasion so much agony as is experienced, for example, in whitlow; or that the throbbing of the arteries should be as acutely and painfully felt as we know to be the fact. In this way, also, one branch of a nerve whose sheath is vibrating painfully may communicate its vibrations to another sheath which happens to be in juxtaposition," etc., etc.

I will make no further extracts from this part of the subject, but proceed to the *rationàle* of this process of relief, which,—from what I have already quoted on nerve vibration and excitation, both natural and morbid—may easily be understood from the following: "The *rationàle* of the process of relief is to overpower the tumultuous vibrations of the nerve elements within their sheath, by communicating an independent and vibratile motion to the nerve as a whole." This will, I think, be sufficient as a key to the author's argument for nerve percussion.

While he disbelieves that electricity possesses any percutient powers, he thinks magnetism, which he considers to be a simple physical action, may be successfully used as a medium for nerve vibration. He reasons as follows: "We do not fully appreciate the effect of subtile, or subtilty forces acting on the organism.

"When the so-called mesmerist induces a state of hypnotism in his patient by simply blowing on the face, or when by 'passes' he impresses the retina, he acts physically on the terminal twigs of highly sensitive,—and generally educated—nerves, and induces a set of actions, which though notably in themselves, are no more mysterious in the manner of their production, than the involuntary strong muscular action excited by the tickling of a hair, or a feather, or the crawling of an insect."

He neglects, or probably ignores, to recognize how much the condition which Carpenter terms "expectant attention" has to do with "mesmeric passes," or, indeed, with any form of medication, not even excepting the percutient; for the more mysterious the method the greater is the patient's attention concentrated, and credulity exercised. His reasons for considering electricity impotent to bring about this effect, will, I believe, not bear investigation.

He says: "That current simply uses the nerve structure as a conductor, and passes along it without throwing it into vibration. Electricity travels in the line of least resistance without relation to the particular tissue which offers itself as a conductor, except so far as regards its capacity for receiving and transmitting the current. Electricity will pass along the tract of a nerve, taking the place of nervous energy, and itself producing the phenomona of muscular contraction, instead of eliciting nervous force from the nerve centres."

My opinion is, that we are not yet able to estimate the effects which even atmospheric electricity has upon "sensitives," or highly nervous organizations, especially when morbidly sensitive by disease. The cause of results, either beneficial or deleterious from living in certain regions, has not yet been attributed wholly to the right source. Why a neighborhood of 20 miles area will have cases of idiopathic asthma at the rate of ½ per cent., and why, upon going outside of that area, their asthmatic condition ceases,

is yet a mystery. To say "'tis something in the atmosphere," is far from solving it. We know that these electrical currents have much to do with the vigor and growth of the vegetable world. We know that there are diurnal tides of atmospheric electricity; this fact is equally as certain as that of the tides of the ocean; and there are also annual tides, the quantity of electricity being greatest in winter, the increase from summer to winter being gradual. I believe that when these facts are more generally understood, we shall come nearer solving the question of why people living in the same climate should not be equally affected, beneficially, or otherwise; the answer being that the idiopathic conditions of some require more electricity—atmospherically—than that of others.

These problems may be labelled *Psychical Phenomena* and placed among their numerous kindred, but the time is fast approaching when that term *Psychical* must have an intelligent definition and an honorable position. Science is out after these so-regarded "Airy nothings" and is making for them a "local habitation and a name."

That symptoms do exist in certain forms of nervous disease, which should be accredited to statical changes in the atmosphere, all scientific minds must admit. Our best authors recognize this fact, especially the more modern ones, although Dr. Granville does not. Yet in illustration of some of these conditions, or phases which are generally ascribed to the state of the atmosphere, I can give no better description than by quoting the author himself, who, while discussing diseases of morbid irritability, and the sudden and mysterious changes which the patient presents, speaks as follows: "At times an ataxic patient will walk well, at others he can scarcely stand. One day he can perform almost any desired movement, while on another he can scarcely do anything in an ordinary fashion. Nor is it possible to connect the variations which take place in his power of coördination with the mental, or bodily state; at least I have failed to establish any such connection. Sometimes I have thought a patient more orderly in his movements when he was a little depressed; at others, when he was brightest.

"Treating many cases at the same time, I have observed a tendency on the part of each, and all of them,—although not in communication, even in my waiting-rooms—to be at their worst on the same day, and have natuarally looked to the weather, or the state of the atmosphere, as regards temperature and moisture, and electrical conditions, for an explanation, yet I cannot say that I have succeeded in discovering any connection."

Now, although I most heartily enter into the spirit of many of the ideas of our author, yet I am not ready to cast aside everything, either in science or nature, which does not harmonize with his present state of reasoning. His arbitrary way of fashioning circumstances to suit his conclusions, suggests the query, which of the two alternatives he would adopt, if by chance, he should have a case which did not yield to nerve-vibration, (or percussion). Would he dismiss the case, or would he change the treatment? Like the tailor in the story, would he make the coat to fit his man, or undertake to make the man fit the coat? Although we are continually being disapointed with the results of electricity when used in diseases of the cerebro spinal nervous system, yet I am very much of an opinion that the fault lies largely within ourselves, for we are, as yet, altogether ignorant of this agent which seems to promise so much in a large variety of ways, and is at present the foremost object of interest with scientific people.

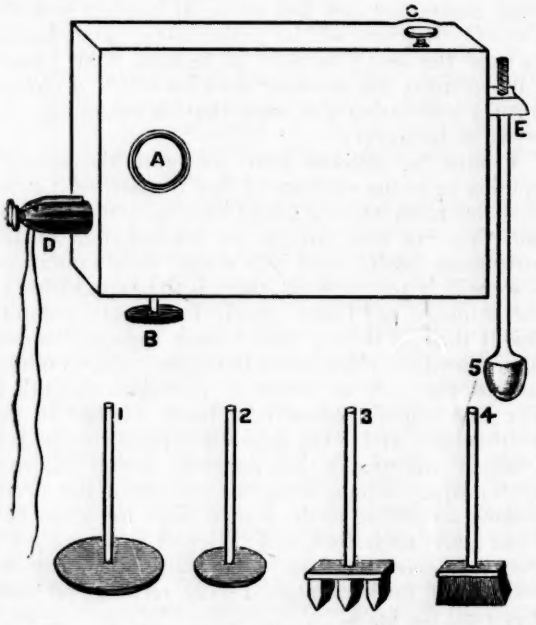
But let us return to our subject. The pages which our author has devoted to the consideration of locomoter ataxy are, I consider, vastly suggestive, and hence interesting. His theories that this morbid condition,—loss of coördination,—is caused by something other than loss of sensation, and his efforts to prove the same, are worthy of careful attention. He says, (as showing the correctness of his conclusions), "In the course of the disease, or diseases,—for I believe there are several,—which have loss of coördination for one of their prominent symptoms, it will soon be apparent to the careful clinical observer, that the essential morbid condition is a block, or undue resistance in the course of the motor nerves. The notion that loss of sensation is the primary fault may be dissipated by a simple, familiar experiment." The experiment which he mentions is, to tell the patient to place his toe on a certain figure of the carpet; this act he will show his inability to perform, long before his foot has come in contact with the carpet. His foot will be projected out one side, or beyond the spot; because, as he says, "the patient fails to make his muscles obey his will." I cannot forbear expressing the hope that his reasoning may prove to be correct.

I must be allowed here to quote the author's opinion as to the etiology of this disease, as it more fully illustrates what he would have us to understand; and then we will turn to an investigation of the instrument itself, which is to rectify these conditions —we will hope. "What then, is the explanation of the etiology of Tabes which I have to submit? Briefly this. I believe the disease to be at the outset a disorderly vibration of the nerve-cells, or fibres; and in the end, an arrest of vibration altogether. The first organic cause is, I think, change in the neurilemma; and in the syphilitic type of the disease, I believe the specific inflammatory action followed by deposits, extends along the course of the nerve sheaths, ascending to the centre from the chancre." I will quote no farther, as I believe I have made his theory sufficiently plain. To those who may be desirous of further detail, I only recommend that they read the book.

Before receiving Dr Granville's book, I had one of his instruments sent me from England. This I found upon examination, to be just what the author himself had said of it—far from satisfactory. It does not furnish means sufficient to bring about the ends desired. In other words, to reach every phase of nerve vibration would be simply impossible to do with an instrument which permitted of no modification in its percutient or striking power. This instrument suggested to me something which might be

much more satisfactory. This instrument he calls the "Clock-work Percuteur" because 'tis set in motion by winding up a spring inside; it consists of a simple train of cogged wheels, worked by a spring, and acting on a lever which carries an ivory hammer." This machine is in the form of a box 6 to 8 inches in length, and somewhat pointed at one end. On one side is a pivot by which this inside arrangement is wound up. Parallel with this is an ivory button which upon pressure keeps this hammer in motion; and on the tapering portion in front, is a button which, in an almost imperceptible degree, regulates the force, and speed of the hammer; and lastly, the hammer itself, which in this instrument is a small point of ivory, projecting about 1-16 inch from the outside, and immediately beneath the regulating button.

The impossibility for this instrument to answer the requirements which an almost indefinite variety of pathological conditions would demand is quite apparent. In the first place the operator is obliged to stop every two minutes and wind it up. Again, the force of the blow, at its best is not sufficient, (save it may be in rare instances), as in this treatment the ultimatum is to "throw the nerve into a new state, or series of vibrations." To do this satisfactorily in all morbid conditions would require a variety of hammers, and great liberty in regulation of speed and force of the blow; that is attained in the instrument shown below.



A, Button to set the instrument going. B, To regulate the force of the blow. C, To regulate the rapidity of the stroke. D, Connects with battery. E, Holds hammers. 1, Large disk. 2. Smaller disk. 3, Triple-pointed hammer. 4, Brush. 5, Olive-pointed hammer.

My machine is an electro-motor, similar to that used for electric bells, and the power comes from a battery of from six to ten cells. It is 4¼ inches in length, 2¾ in breadth, and 2⅛ in width. There are two binding-posts on the end, to connect it with the battery. On one side is an ivory disk that makes the circuit by pressure; on the top of the machine is a thumb-screw which regulates the vibration, and on the bottom there is also another thumb-screw to regulate the power of the stroke. The lever on the top runs out about ¼ of an inch, and has an aperture, in which the different hammers are held; as it is imperative that there be a variety of shapes and sizes; for I have found that each case requires a strictly individual treatment. What the peculiarities of that treatment must be will have to be determined by the wit and experience of the operator. I use mostly the olive-pointed hammer, the small pointed hammer, the large and small flat hammers, the oblong hammer, and the triple-pointed hammer, and occasionally, as in treating the optic centres, I use a disk.

I felt that the greatest advantage my instrument possessed over Dr. Granville's was, that it could be attached to any galvanic battery and thus be run by electricity; but this idea, although entirely original with me, had, I found, upon reading his book, been suggested to some other mind who probably saw the same defects in the percuteur which suggested the improvement to me. So it is probable that the electrical percuteurs are in the market, and available to every physician, though I doubt if they have, as yet, been introduced into this country.

The horror which our author expresses of having his method of treatment get amongst the "irregulars" can be well understood when we consider the abuse which electricity has received from this class, who have made it an object both of terror and derision.

Until of late, our knowledge of the mechanism and functions of the nervous system has been both limited and unsatisfactory. One after another of the theories on the treatment of nerve derangement have proved futile; thus showing very conclusively that we have not yet become sufficiently well acquainted with the construction of the instrument we are trying so hard to attune. We have known a few deadly remedies, and these we have hurled at certain "symptoms" with the reckless force of ignorance, unaided by the aim of any absolute knowledge. Look, for example, at our extravagant use of phosphorous; engendering conditions—as formerly prepared—more fatal than those which we hoped to remove. We have been in the habit of trying remedies one after another, till finally, if the patient survives the end of the list, he is dismissed as incurable, and disappears from our medical horizon. Then it is that this mistaken practitioner avails himself of the always open columns of our medical journals to show up the therapeutical short-comings of this or that remedy he has so blindly employed; and if the name of the writer be sufficiently well known, the drug will be relegated for awhile to swell the number of misapplied remedies.

It is commonly known that a nerve, physiologically considered, is composed of two great divisions, the first presenting the fibres, or tubes, the latter the cells; and that through these is generated "nervous force," the fibres acting as conductors; also that the nervous system is entirely distinct from all other systems of the animal organization; and that all other systems are dependent upon this one. Any knowledge more definite than this is, we must admit,

the exception rather than the rule, amongst the general class of physicians.

But let us now turn our attention to the practical illustration of the utility of percussion as a means of cure in nerve disturbances. I have recorded several cases which were treated by this method, and the results show, I think, very favorable evidence that Dr. Granville's theories were not without some scientific foundation. And if so, we have taken a mighty stride towards solving the hardest problem in neurodynamics.

Case 1.—Torticolis, or Wry-Neck.—A married woman, aged 29, of extremely nervous temperament, and suffering from mental trouble brought on by death of child. Electricity had been applied by a competent person, but this seemed to aggravate the case. The muscles of the right side were affected. This condition had existed for several months. Not only the sterno-mastoid, but the deeper groups of muscles were involved. As the motor filaments of the pharyngial branches of the pneumogastric are derived from the spinal accessory, I directed my treatment to the base of the occipital bone, across to the upper part of the sterno-mastoid, following the course of the nerve as closely as possible.

The treatments were daily, and of fifteen minutes duration. The percuteur was firmly held against the surface—though not pressed down—so that the whole force of the blow might be obtained. Eight cells of the battery were employed, and I used the olive-pointed hammer; tracing the course of the nerve upwards and downwards, and over the clavicular portion of the trapezius muscle. At the end of the first sitting, the muscles of the neck were a trifle relaxed, the patient being able to turn her head slightly; but the next day found the old condition to be almost re-instated. However, on going over the same treatment, I found the improvement still more marked than that on the day previous, and, to cut a long story short, the condition improved under each treatment, the deterioration between times becoming less noticeable.

At the end of three weeks the patient presented no signs of wry-neck, and the corresponding muscles of the other side had regained their normal condition. I varied the treatment somewhat, as the case progressed, by passing the hammer down either side of the spinous processes, pausing a moment at each. The entire cerebro-spinal nervous system seemed to respond favorably to this treatment, and the result was, complete restoration of health, and no inclination, so far, to any return of the torticolis.

This patient had already gone through the usual list of nerve remedies. I ordered that all accessory treatment should be stopped, save good nourishing food, pleasant surroundings, and all other necessary and proper hygeinic conditions.

Case 2.—Anæsthesia of Right Leg.—This occurred in a young man aged 18 years. He complained of loss of sensation in the posterior portion of the right leg; otherwise his condition was that of perfect health. The spot was about as large as my hand, and located over the belly of the biceps muscle. Two winters previously he met with a fall while skating, and dates the commencement of the trouble from that time. Irritating liniments, and various other external remedies, had been applied, with no other result than leaving an ugly looking surface. The loss of tactile sensation was almost complete. He suffered no pain. There were no symptoms which showed any implication of the sciatic or its branches.

I began treatment by applying the conical hammer over the affected part, my object being to vibrate the internal cutaneous branches. At the fourteenth treatment the anæsthesia was entirely removed, and treatment was stopped. Three weeks later the skin had regained its natural appearance.

Though this condition was simply an affection brought on by injury to the afferent nerves, it might lead one to inquire what the treatment should be in case the injury extended to the branches of the sympathetic. I reply, that the cutaneous may sometimes be made to act as conductors to other branches which pass more direct to the trunk of the affected nerve. Perhaps this may be better understood if I quote our author, who says (while speaking of chorea): "Strive to impress the centres by percussing mixed or different nerves on that side of the surface of the limb opposite the line, or direction of the choeric movement, or, by percussing nerves through which antagonistic muscles might, if the case were a suitable one, be called into action reflexly." The folly of wandering around with the percuteur, as operators are largely in the habit of doing with electricity, will, I believe, be sufficiently apparent.

Case 3.—Paralysis of Left Side, after Apoplectic Seizure.—Mr. B., aged 59, had hemiplegia of the left side, the result of an apoplectic attack three years before. He had abandoned all hope of recovery, and came to me for treatment of the constipation only. His arm and leg were perfectly limp and useless; the forearm and hand were considerably atrophied, and the sense of touch impaired. His business kept him "on the road," but previous to this attack, according to his own statement, had always felt perfectly well, never suffered from neurasthenia in any form. The mental faculties were unimpaired. He had been what he termed "a high liver." Denied ever having had syphilis, and indeed there were no traces of it. Said he had tried electricity, but I had no means of knowing whether it had been intelligently applied. I took this case simply for experiment; my method of treatment, which I shall relate as briefly as possible, was as follows:

Every day, at precisely the same hour, the patient was disrobed, placed on a high stool, which just permitted the feet to rest upon the floor; the left arm was extended and held in a horizontal position by means of straps; then the pointed hammer was slowly moved up and down each side of the spine for thirty minutes. This course was pursued for one week. After that, I began the treatment by percussing the spinous processes the whole length of the spine, with the flat hammer, for twenty minutes. This was kept up for one week more. I now had the satisfaction of seeing a slight change; the patient could raise his arm a few inches higher after each treatment.

The bowels now began to be more regular, but for increase of the peristaltic action I percussed over the perineal nerves; this accomplished the desired effect. My patient could now move the foot upwards and downwards after each treatment, and had a little control over it when walking. I now directed a portion of the time to treatment of the different fibres; but there is no need for further detail.

The patient could, at the end of the third week, lift the foot slightly when walking, carry the hand to his head, and also button his vest with the fingers of that hand. The treatment was kept up regularly for 48 days. The atrophied condition of the hand and forearm was fast disappearing, and the bowels were regular.

At my suggestion the treatment was postponed, and he left the city to pursue his business.

Three months later he called and the improvement was still more marked; the limb could be used quite freely, although there was not much strength in it; the power of that side being about half that of the other.

I think this case may be regarded as something remarkable, yet I wish one could know just what the result would have been had electricity been as carefully and scientifically employed in the place of percussion. But this, of course, can be ascertained only by repeated experiments. Experiments which, I must add, the physician will find to be quite tedious and time-consuming.

My reasons for so punctiliously observing the same hour for the daily treatments, was to carry out the idea of our author, who believes in the "force of habit" in nerve action, viz: "One interesting fact in relation to the process of excitation by nerve vibration may be mentioned here; all the movements excited by percussion of the nerves in a limb, have a tendency to be repeated."

Case 4.—Exhausted Brain Power; Cerebral Neurasthenia.—Mr. White, a gentleman of 45 years, complained of numbness in both hands, the fingers feeling "as if they were done up in cotton," as he describes it. Tactile sense was considerably impaired; was often troubled with "dizzy spells," and had become very despondent. Examination of urine showed abundance of phosphates.

I began by percussing over the cervical sympathetic, and treated the brachial plexus through the afferent branches for twelve days, of thirty minutes duration. Then began treating the head symptoms; percussing with the flat-headed hammer the superior cervical nerves and plexuses, by going slowly around the inferior edge of the occipital bone. Then, with the brush, I went very lightly over the scalp, going in a slow and methodical manner from before backwards, and from below upwards, for five minutes.

At the end of twenty-nine applications the numbness had quite disappeared, and to all appearances the mental disturbance had also gone. I must not neglect to mention that I insisted on a complete cessation of duties and cares, ordered a proper diet, and shower-baths. And finally, ere he returned to business, he concluded to take a trip to Europe, where he is at the present writing.

Case 5.—Polio-myelitis Anterio Acuta; Infantile Paralysis.—Blanche B., a child of 7 years, had been paralyzed in right leg since three years of age. Health has been perfect. The mother attributes the paralysis to sitting on the wet ground. It came on in the night, accompanied by feverish symptoms. All motor power in the limb was gone, the child dragging it along. This limb was one-half of an inch shorter than the other, and the muscles were somewhat atrophied. This case had been pronounced hopeless by two leading physicians.

I had this child brought to my office daily until she had received ninety treatments. I applied the hammer over the entire length of the spine, also up and down each side; the child meanwhile suspended in a sort of harness improvised for the case.

At the end of the ninety days the paralysis was greatly improved, the muscles were becoming better nourished, and were fast regaining their normal contion. The healthy condition of the child, and the strong constitution which it had evidently inherited from both parents, greatly lessened the difficulties in the way of restoration, whether by this process or any other.

Case 6.—Nervous Deafness; Tinnitus Aurium.—A lad of 15; decidedly nervous diathesis, had been suffering from tinnitus aurium for nine months previous to my seeing him. Had been "studying night and day"—to use his mother's words—"to pass examination" at school. Was emaciated, and decidedly nervous starting violently at sudden noises, and very irritable.

I ordered complete cessation from study, and had horse-back riding substituted in place of books.

Treatment:—I applied the large disk over the meatus auditorious externus, trusting it might act upon the membrane of the tympanum mechanically. In combination with this, I percussed over the pneumogastric and sympathetic nerves, giving what I may perhaps be allowed to call "a general treatment" of the cerebro-spinal centres. The result was, a very complete and permanent cessation of all the head noises, and also restoration of the sense of hearing.

Neuralgia.—In certain forms of neuralgia I believe percussion will be found a more efficient remedy than electricity, especially in neuralgia of the branches of the fifth nerve, intercostal and cervico-brachial. Much care and judgment is required in treating neuralgia by percussion, but the result, if successful, is very soon apparent in the sudden cessation of the intense pain; a most convincing proof, to the patient, of the efficiency of the agent employed.

Sometimes the patient may complain of an increase of pain for the moment, due to the new series of the vibrations or waves which the percuteur is establishing; but this rapidly subsides, because, allowing the case is amenable to this form of treatment, "The elements are compelled to fall into the same rhythmical vibration as that communicated to their sheath by the regular beat of the percuteur; the discord between the nerve elements and their sheath, which is the cause of the pain, and the sensation subsiding together." This makes apparent the ob-

ject of the treatment, which is to establish a harmony, a rhythm of vibrations between the nerve and its sheath.

The patient should be instructed to speak the moment the pain ceases, and the hammer should be at once removed. If the pain returns within a few minutes, repeat the operation.

In the sharp forms of pain the percussion should be slow, for reasons which I trust have been made sufficiently obvious. If impossible to hit the part of the branch which the pain indicates is the portion affected, it must be approached in a circuitous manner by taking some terminal twig; but the aim of the operator should always be to approach the spot affected in the most direct manner possible. "The point to remember is, that it is with the nerve we have to deal, not with its surroundings," And that "It is useless vibrating over a nerve or centre, unless we can reach it (the nerve)." I submit the following case as illustrating my manner of procedure:

Case 7.—Cervico-Brachial Neuralgia.—Charles B., aged 33, cutter in a tailoring establishment, came to me suffering intense pain in the right arm, the pain extending from the back of the neck to the ends of the fingers, which were swollen and drawn towards the palms of the hand. The surface of the arm, over the brachial muscle, was exceedingly sensitive and cold to the touch. He had consulted a physician who pronounced it muscular rheumatism, and gave him large doses of salicylic acid, quinine, and also used electricity. The electricity caused intense pain, he said, making it "a great deal worse every time it was applied." I do not, of course, know how strong a current was employed, but it is evident the nerve vibrations were augmented, rather than diminished. Indeed, I doubt if electricity, as at present understood, does not always have this effect. If this is the case, we then have a solution for the secret of the general failure of electricity in instances where the nerve-vibration requires to be *subdued* rather than increased, as in facial neuralgia, and in fact all neuralgic affections of the cranial nerves.

Upon passing the hard brush over the surface, from the fingers upwards, the patient complained of pain as I reached the affected portions of the nerve, the sensitive spots corresponding to the parts supplied by the lower cervical nerves, or regions which are innervated by the sensory branches of the brachial plexus. I used the disk very lightly over these parts, and on the tender spots of the cervical vertebræ, for ten minutes duration; during which time I made two interruptions in response to his declaration that the pain had ceased, for the time being.

In six treatments the painful condition was entirely removed. He resumed labor in twelve days from time of first application. I consider the cure due to my being able to overpower the tumultuous vibration of the nerve elements within their sheath "by communicating an independent and different vibratile motion to the nerve as a whole." I think nerve-vibration may also be valuable as an aid in diagnosing the exact locality or seat of nerve disturbance. By passing the pointed hammer along the limb, a reflex action commences as it passes over a morbid nerve. In this way disturbance may be traced from the branches to their trunks, and thence to the spinal cord.

Case 8.—Facial Spasm without Pain.—A gentleman, aged 27, dry-goods salesman, had been troubled with spasm of the face, in the region of the buccinator, riserious, and depressor anguli oris muscles. When under excitement the spasms were constant; at other times, when the mind was in repose, the face would be quiet for several minutes at a time. Had used electricity without benefit.

I applied the brush over the terminal twigs of the facial nerve, and kept the percussion up until all tendency to spasm, for the time being, had ceased. The attacks grew less frequent between the treatments, and at the end of fourteen applications, had ceased altogether.

This was a case of several years' standing, and one of great interest to me, as I have heretofore found spasms of this nature very obstinate to overcome.

Case 9.—Chronic Anterior Poliomyelitis.—A gentleman, 38 years of age, was taken, about eighteen months previous to my seeing him, with pains in the left forearm. He applied various remedies, as for rheumatism. The same symptoms soon after appeared in the left leg; then the right leg became similarly affected. The muscles were sore on pressure, and wasting began to show itself. The sensory nerves were not implicated; the sphincters were normal, and brain-power unimpaired. When I saw him, there was marked paresis in both legs, and the muscles of the left hand and forearm were considerably atrophied.

My course of treatment in this case was very much the same as that I should have pursued with electricity, viz.: To affect the spinal nerves I applied the hammer up the spine, and on each side of the spinous processes. For reflex irritation I passed the flat hammer over the sensory nerves of the legs and arms, punctiliously observing the same hour for the daily operation which I had observed in the cases preceding this.

The paresis began to disappear after he had received daily treatment for two weeks, and the muscles began to round out. He came every day for three months, at that time the paralysis was quite gone, and treatment was suspended. He continued to improve, and to-day he is, to all appearances, a well man. No internal remedies were given, but some changes were made in hygienic conditions.

Locomotor Ataxia.—Our author has devoted considerable space to the consideration of diseases of induration of the posterior column of the cord; diseases which have for their symptoms pronounced disturbances of the locomotory functions, and defects in coördination and sensation. His theories on the phenomenon of loss of coördination may be condensed in the quotation of two or three lines. He says: " . . . it will soon be apparent to the careful clinical observer, that the essential morbid condition is a block, or undue resistance in the course of the motor nerves."

He scoffs at the "notion" that the loss of sensation is the first, or "primary fault." He says that "the patient fails to make his muscles obey his will."

And again: "Only certain muscles will be strongly energized, though the will is acting powerfully, and the endeavor to touch the object be maintained for a time," etc., etc. Every year multiplies cases of diseases of the spinal cord, and with this constant spectacle before our eyes, we cannot fail to be interested in any theory which may lead to the solution of the trouble, or give a suggestion as to the method of treatment. The following I consider to be a typical case of locomotor ataxy, as well as showing the method to be pursued when treating this condition by percussion:

Case 10.—Mr. H. B. G., a married man, aged 43, of regular habits, no traces of syphilis; business, a salesman in a large boot and shoe store. When first seen by me, he had become unable to stand erect and walk straight, and wholly unable to retain his equilibrium with eyes closed. The first symptoms appeared three years previous, with pains in the lumbar region of spinal cord, and trembling in limbs when stooping. He feared kidney trouble. Shortly after this, one cold morning, after a long walk to the store, he experienced pain in the heel and bottom of left foot; this condition soon made its appearance in the other foot, and he put lamb's-wool soles in his boots to protect the bottom of the feet. The pain soon extended up the legs and thighs; and he now consulted a doctor, who prescribed syrup of triple phosphates, with stimulating liniments to the limbs. He now noticed that he "scuffed" when he walked, and took out the in-soles, his feet feeling already terribly "muffled up," to use his language. The first symptoms he noticed of "anything wrong" was when, in ascending the short step-ladder used in these stores, for the purpose of removing a box of shoes from a high shelf, he could not retain his equilibrium, and a horrible sensation of helplessness possessed him.

The objective features of this case are those to be ordinarily found in diseases which have induration of the posterior column of the spinal cord, with one exception, viz.: His hair (of dark color) was white in spots of about the size of a silver dollar, appearing in quite regular order over the entire head. These, he tells me, began to appear with the pains in the lumbar region. How much, or how little they were connected with the diseased condition, is of minor importance here.

My treatment began by ordering complete cessation from business, perfect regimen and hygienic conditions. I stopped all internal remedies, and began daily applications over the spine, and along the sides of the column. For the hindrance in locomotion I treated the irritable nerves with a light blow fifteen minutes every day, to arrest the disorderly or abnormal vibrations of the nerve cells, and establish a normal condition, after our author, who says:

"I believe the disease to be at the outset, a disorderly vibration of the nerve-cells, or fibres, and in the end, an arrest of vibration altogether." . . . . . "In short, I believe the cause of the malady to be a disturbance of that orderly vibration which is essential to nerve action and function, whether in the posterior, lateral, or anterior columns of the cord; or in the nerves that transmit impressions from the periphery, or carry down motor impulses from the centre to the muscles." Of the efficacy of nerve vibration in this condition, he says: "It controls the disorder, changes the state, and helps to reëstablish that mobility of the nervous elements which is essential to health."

I began my work upon this subject just thirteen weeks ago, and he is still under my care. At the present time of writing, the indications are certainly encouraging. He has almost completely overcome the locomotory disturbance, and, unless something unforeseen interferes, I hope to be able to reëstablish perfect harmony of action in the power of co-ordination.

I have selected the foregoing cases from a much larger number, as best serving to show the results when treatment by percussion alone has been employed. Yet I do not know that I can, in truth, say that this has been the only means employed, for I have in every instance insisted upon correct hygienic conditions, such as diet, clothing, air, exercise, cleanliness, sleep, and morals.

The majority of the cases cited have been of a high and intellectual class, ready and anxious to follow directions, which — it need not be said — is a very powerful auxiliary to any form of treatment. What the result in these cases might have been, had some of the older and better known remedies have been used in its stead, of course we cannot tell. Several of the patients had used electricity, they told me, but it had been applied either by themselves or by some one equally incompetent. It must be admitted that the cases I have cited speak very flatteringly for this method; but many failures are likely to come between these and their duplicates. I might record a number of instances where percussion was used in combination with internal remedies; but this would not answer the desired object. We want proof of the correctness of our author's theories.

If my opinion were asked as to the efficiency of percussion in diseases of the cerebro-spinal nervous system, I should say that, like every other remedy, it is subject largely to conditions. Like electricity, it may succeed beautifully at one time, and utterly fail the next. All other conditions being equal for this form of treatment, it will then be impotent unless handled with exquisite care and skill Failure must inevitably follow if the manner of its application be faulty; hence, however great its possibilities, I fear it can never be an universally popular remedy. The physician who employs percussion in the treatment of his patients must "take no note of time," and possess an inexhaustible amount of patience. It cannot, like massage or electricity, be passed over to an assistant. The percuteur must be in the hand of him who not only is thoroughly familiar with the anatomy of the nervous system, but who also understands the pathological condition of the patient. At present we know too little of disease, or its remedies, to throw away uninvestigated any theories which have anything like a scientific basis, as Percussion surely *seems* to have.

While our author's idea that percussion is *all* that is required in diseases of the cerebro-spinal nervous system may seem illusory, the *test rests with every physician who makes diseases of the nervous system a specialty.*

GEOGRAPHICAL PATHOLOGY OF CONSUMPTION.

BY G. W. McCASKEY, A.M., M.D.,

PROFESSOR OF DISEASES OF THE THROAT AND CHEST, FT. WAYNE COLLEGE OF MEDICINE, FT. WAYNE, IND.

III.

Altitude.—The question of altitude in its relation to phthisis is one of the gravest importance, and has been occupying for some time a large share of the attention of medical writers. Treated in accordance with the plan of these papers, of course only the most general deductions can be made. If it can be shown, however, that the mortality from the disease at different altitudes is so conflicting as to render a formulated law quite impossible, and make it necessary to study the special indications of each case, an important object will have been attained. No greater calamity can befall the advancing study of the climatic treatment of consumption, than the routine habit, so much in vogue, of sending patients to certain localities without determining their special fitness for each case.

In the United States every degree of elevation can be found, from certain parts of the coast line which are not more than fifty or one hundred feet above sea level, to the highest habitable limits. Along the Atlantic and Gulf Coast line we have a belt of varying width which is less than four hundred feet high. At such a low level of course no comparison can be made with high altitudes as forming with them a continuous series; for the investigations of Müller have shown that in descending from mountain elevations towards the plains, the maximum degree of mortality from phthisis is reached at a heigth of from 650 to 1650 feet. Below this level, therefore, we may assume that variations are not of much importance, so far at least, as barometric pressure is concerned. But along this level belt above referred to, we observe every degree of mortality from consumption found in the United States, from its very highest to about its lowest. It is also worth noting that the highest mortality is generally found where its elevation is greatest, and the lowest where it is least. These facts are at variance with the oft-repeated statement that consumption is necessarily more prevalent in regions near the level of the sea. The territory and population involved are so extensive that it can not be considered an exception, dependent upon accidental local conditions.

The region comprising New Mexico, Arizona, Colorado, Utah, Wyoming and Nevada, lies at an elevation of from 4,000 to 8,000 feet. These states and territories have individually and collectively, the lowest death-rate from consumption in the United States, differing but little, however, from some parts of the Gulf Coast, almost at sea level.

The group of states from Kansas to Minnesota is about one-half as high as the last named region, and has a mortality from consumption nearly twice as great. The section of Ohio bordering upon the Ohio river is from 800 to 2,000 feet high; 15.9 per cent. of all deaths are due to consumption. The lake counties are from 400 to 800 feet high; only 11.2 per cent. of all deaths are due to this disease—nearly 30 per cent. less than in the more elevated regions. Many other facts, incompatable with any possible law except the diminishing prevalence of consumption at high altitudes, might easily be cited.

Ruehle says that an elevated position protects from phthisis, but that it must be at least 1,800 or 2.000 feet high. That elevation does not protect is conclusively shown by the facts presented. Especially by the fact that in Colorado, which is more than 4,000 feet high, more than 8 per cent. of all deaths are due to consumption. It seems needless to remark that the assertion of Prof. F. T. Roberts that regions situated at a low level present a large number of cases, is altogether too sweeping. That consumption is rare in most elevated regions is a fact. That these regions, however elevated, within ordinarily habitable limits, confer complete immunity, is not a fact. And finally, that the degree of elevation, has an intrinsic relation to the prevalence of the disease is a view that finds no support in the facts which have been presented.

The reason why phthisis is rare in elevated regions is not known. Niemeyer says distinctly and frankly that it is "without apparent reason." Ruehle says that it is not determined if it is due to low barometric pressure, but that it may be due to purity of air. The facts cited by Herman Weber, in his recent Croonian lectures, regarding the number of organisms in the air at different elevations (Tyndall, Pasteur, and others), lends great weight to the latter surmise.

Occupation.—The question of occupation in its relation to consumption suggests a few facts to which attention may be called. For our present purpose we may omit those occupations included in the class designated as professional and personal services, and trade and transportation. A little more than one-fourth of all those who have a specified occupation belong to this class. Their mode of living and sanitary surroundings are too diverse for analysis. The two remaining classes include those engaged in agricultural pursuits; and those engaged in mechanical and mining industries.

We will consider the occupations of some of the states in their bearing upon the mortality from consumption, taking as a basis the percentage of those in the second class—manufacturing, mining, etc.—to the entire number of those who have a specified occupation. Of course it is generally supposed that the occupations included in the second class, with some few exceptions, favor the development of phthsis. In the United States about 22 per cent. of all those who have an occupation belong to this class. When we come to examine the different groups of states we find, what of course was already matter of common knowledge, the major part of our manufacturing interests in the New England and middle

states. In New England 42 per cent., and in the middle states 43 per cent. of all those who have a specified occupatiou belong to this class, comprising manufacturing, mechanical, and mining industries. In the South Atlantic and Gulf states there are but 4.7 per cent., while in the interior and lake states there are 16.6 per cent. in the same class. Now it so happens that in these different groups of states their sequence when arranged in the order of their manufacturing importance as thus determined, is the same as when arranged in the order of greatest mortality from consumption, with the exception of the New England and middle states. But among the individual states forming these groups, the most marked discrepancies are found. Practically the same death-rate from consumption is frequently found in different states with manufacturing interests widely variant or *vice versâ*.

Arkansas and Tennessee have only 4 per cent. and 8 per cent. respectively in this class; but their death rate per 1,000 from consumption (1.2 in Arkansas, and 2.4 in Tennessee) is .6 lower in the former, and .6 higher in the latter than the average for these states. Tennessee has a smaller percentage of people in this class of pursuits than Florida, while its death-rate from consumption is about 2.5 times as great. In the remaining States the proportion of this class varies from 12 per cent. in Kentucky as the lowest, to 26 per cent. in Maryland as the highest. There are fourteen States in this section, and seven of these are above the average (16.6 per cent.) and seven are below it.

In the following table the Interior and Lake States are arranged in sub-groups, the first containing those above, the second those below the average, with consumption death-rate for 1880.

INTERIOR AND LAKE STATES.—GROUP 1.

States in which percentage is above average (16.6):

	Percentage of those in manufacturing, etc.	Deaths per 100 from Consumption, 1880.
Maryland	26	2.5
Ohio	24	1.9
Indiana	17	2.0
Missouri	17	1.5
Illinois	21	1.5
Wisconsin	20	1.3
Michigan	23	1.6

GROUP 2.

States in which percentage is less than average (16.6):

Virginia	13	2.0
West Virginia	15	1.6
Kentucky	12	2.3
Tennessee	8	2.4
Arkansas	4	1.2
Iowa	13	1.2
Minnesota	15	1.1

It will be difficult, I think, from a study of this table, to find support for the view that those engaged in manufacturing, mining, and mechanical industries are more liable to consumption than the class following agricultural pursuits. In the sub-group containing those States below the average there are three States with a death-rate from consumption above 2.0 per 1,000; while in the other group there are but two. On the other hand, geographical distribution will be found to be apparently a much more important factor. For example, all States in this group west of the Mississippi river have a death-rate from consumption of less than 1.5 per 1,000, while in all those east of this river, with one exception (Wisconsin), it is 1.5 or more.

In the Middle States the figures fail to furnish any support to the theory; 43 per cent. of those with occupations are in the class we are considering. New York has 53 per cent. with a death-rate of 2.5—both of which figures happen to be the highest in this group. But in Delaware, in which the percentage is only 26—less than one-half what it is in New York—the death-rate is about the same. Pennsylvania has proportionately about 40 per cent. more people engaged in these occupations than Delaware; but its death-rate is about 21 per cent. less In New Jersey it is 40 per cent., and the death-rate 2.3 per thousand.

In the New England States the death-rate from consumption only varies from 2.2 in Connecticut to 2.9 in Massachusetts; while the percentage of those engaged in these occupations to all persons of specified occupations, varies from 19 per cent. in Vermont to 57 per cent. in Rhode Island. Here, again, as in the Middle States, the highest figures correspond. But Vermont, with its lowest percentage (19), has precisely the same death-rate (2.4) as Rhode Island, with its highest percentage (57); while Connecticut, with 47 per cent. engaged in these occupations, has the lowest death-rate from consumption in New England. The death-rate in Rhode Island, with 57 per cent., is precisely the same as in Tennessee, with 8 per cent. These figures show, if figures can show anything, that if occupation has much to do with the mortality from consumption, it is completely masked by other and perhaps unknown conditions.

These remarks do not apply, of course, to certain occupations in which the inhalation of irritating particles or gases might readily produce conditions predisposing to consumption. My only object has been to show the general effect of occupation upon the prevalence of the disease as indicated by its mortality.

The action of a "cold" in producing a "catarrh," which is followed by phthisis, is not sufficiently prominent in studying this question. Those engaged in agricultural pursuits are greatly exposed to the vicissitudes of the weather; and while their out-of-door life is in itself certainly conducive to a vigorous state of health, it may be seriously asked whether the consequences of repeated exposures may not in great measure offset the ill-effect produced by the unsanitary conditions of factory life.

In making a statistical study of the various climatic and other conditions found in the United States, in their relation to consumption, the object has been to study the subject on an extensive scale, leaving out minor details almost entirely. Not because minor details are unimportant, but because their detailed study is quite incompatible with a gen-

eral survey. Not only so, but individual localities often present anomalies which set at defiance all known laws of health and disease.

The following facts, which furnish a forcible illustration of the contradictory results obtained by a detailed study of local conditions, are quoted from Dr. Andrews' Lumleian Lectures of the Royal College of Surgeons, of England, last year: In 1866 Mr. G. A. Rowell, of Oxford, published a pamphlet "On the Effects of Elevation and Floods on Health." He was a man of deservedly high local reputation, spent immense labor on his task, and his facts, remarkable as many of them are, are probably trustworthy. Unfortunately their verification is extremely difficult, for he compares single parishes and small districts which it is impossible to pick out of the Registrar-General's tables. Here is his account of two villages a few miles from Oxford, up the Thames valley, given with some verbal alterations and omissions of unimportant details:

"Cassington and Wolvercot are both situated on gravel, both have excellent water for drinking purposes, and both are in the same poor-law union, and within two or three miles of each other. Cassington is not situated on a hill, but upon a bed of gravel, which projects into the valley towards the river, but is high and dry above it. The village is fully exposed to the currents of air which sweep through the valley from west to east, having but little protection from trees or other shelter. The roads through the village are wide and well kept, the cottages appear to be much better than in most villages, are well distributed, and although I saw it in wet weather, during a flood season, I thought it one of the cleanest villages in the neighborhood. Wolvercot presents appearances as reverse as possible to those of Cassington. It is protected from the east wind, and Lower Wolvercot is well sheltered by trees on the north and north-east. Along the bottom of the rising ground in Upper Wolvercot there is a ditch of stagnant water, and the ground between the lower houses and the canal is liable to flood in winter, presenting at all times the nearest approach to a swamp that I know of in the Oxford valley. In Lower Wolvercot some of the houses are at times flooded, and all of them are but little above high level. There are stagnant ditches around the village and stagnant pools within it, except in dry summer time; even the road through the village, till very recently, was generally impassable for carts in flood seasons, and partially flooded at all times. The cottages certainly are not better than they are at Cassington, while they are much more crowded together. At Wolvercot a great many ducks and geese are bred, and the early broods in cold spring seasons are often kept within doors in the cottages. Thus, in accordance with general opinion, the condition of Wolvercot is much less favorable to health than that of Cassington, but statistics for the twenty years from 1841 to 1860 show that in Cassington the death-rate was 27 per cent. higher than in Wolvercot, and the average of life 25 per cent. in favor of the latter village also." The actual figures given by Mr. Rowell are as follows:

Cassington.	Annual deaths, 1 in 40.2 persons. Average Age, 25 years, 10 months.
Wolvercot.	Annual deaths, 1 in 51.3 persons. Average age, 31 years, 7 months.

"Allowing for the difference in the population of the two villages, more than double the number of deaths from consumption occurred in Cassington than there were in Wolvercot. Classing that disease with all others of the respiratory organs, the deaths were 70 per cent. in excess in Cassington"

Such anomalies as those presented by Cassington and Wolvercot have been observed again and again by almost every medical man. Single houses, and sections of cities, apparently the most unsanitary, have exceptionally shown an excellent health record for their inhabitants, and *vice versâ*. Because of such anomalous facts as these, the reason for which cannot in the present condition of our knowledge be explained, it seems clear that a general average, even at the expense of slight inaccuracies, is much the safest basis upon which to predicate a general law.

It may now be asked what conclusions can be drawn from the facts presented. These have been for the most part given each in its proper place, and little more is here required than their restatement, which may thus be summarized, viz.: That the mortality from consumption, and we may add its etiology are not esentially dependent upon temperature, altitude, hygrometric conditions, or coast influences. That these factors, singly and in combination, have a considerable influence against or in favor of the development of the disease is probable. But it is generally a matter of doubt how much is due to these and how much to unassignable conditions. While consumption is generally rare in regions with low temperature, it may be equally rare in regions with the highest temperature found in the United States. While it is rare (but by no means always absent) in regions above 4,000 feet high, it may be equally rare in regions less than fifty feet high. While it is generally rare in a dry atmosphere, it may be equally rare in an atmosphere saturated with moisture, *unless associated with a low temperature.* The highest and almost the lowest mortalities are to be found on the Atlantic coast, showing together with other facts, that coast influences, unless masked by unknown conditions are neither essential for nor against.

These conclusions, which savor strongly of medical agnosticism, seem to be for the most part, in accord with Ruehle, who says: "The investigations of Hirsol have shown that neither the geographical position nor the temperature of a region have any thing to do with the prevalence of consumption. * * While rare in Iceland, the island of Marstrund, Steppes of Kirghis, interior of Egypt, plateaus of Mexico, Costa Rica, and Peru, and in the interior of South Africa, it is common in Sweden, as well as in India, in Siberia, Australia, and South America." He thinks, however, that moist air favors consumption, especially when the temperature is continually high—a view which it is needless to say is diametrically opposed to the facts presented.

It is not intended to underrate the value of the climatic treatment of pulmonary phthisis; but rather to show that neither the immunity from the disease, nor its prevalence can be shown to be uniformly, or even generally associated with any one combination of climatic conditions. We must, indeed, admit that the peculiar climatic conditions which confer a relative immunity are in most cases unknown. So contradictory are the climatic conditions associated with different phthisis mortalities that one may reasonably doubt whether the results are directly due to the climate *per se*. Jaccoud, in answer to the question: "Has climate of any kind a curative effect upon tubercle?" says "No; the answer is unreservedly negative. It is therefore useless to inquire which climates have this effect to the fullest extent, since in no case does such influence exist." Nevertheless, there are certain indications to meet in each case. Dr. Herman Weber, in his recent Croonian lectures, thus summarizes these indications: "The difference between different cases of phthisis is so great that it is impossible to lay down fixed rules for climatic treatment. In deciding between different climates and localities, the circumstances connected with the etiology, the stage of the disease, the amount of destruction, and the complications with diseases of other organs, are important; but still more so the distinction between a weak and a strong constitution, an excitable or a torpid nature—between progressive and retrogressive, active or stationary cases. Mental peculiarities ought not to be overlooked; nor the habits of the invalid and the circumstances in which he has lived." But whether the reasons are in all cases apparent or not, we may continue to benefit our patients by sending them to regions where consumption is rare, and where experience has shown that certain classes of cases are benefited.

The *causa sine qua non* of consumption is of course outside the scope of this paper. It may not be out of place to remark, however, that the total lack of all essential relation to climatic conditions, so clearly shown, is a strong, though perhaps superfluous negative argument in favor of its specific origin. The parasitic nature of the disease, to which tradition and clinical history so long pointed with prophetic finger, has at last been conclusively demonstrated. The pathogenetic relation of Koch's tubercle bacillus is established. Around this great central fact all etiological, pathological, diagnostic, clinical, and therapeutical theories will hereafter rotate. The broad facts of its geographical distribution, so often apparently meaningless and contradictory, will ultimately find in the sequelæ of this discovery as complete a solution as they are capable of receiving. It will then be found that those climatic conditions which confer a relative immunity are just such as will, by invigorating the system, raise the tissues to the highest degree of what has been called their "bactericidal power." Preventive medicine, in dealing with phthisis, will have to look for the solution of its problems in the direction of germicidal agents and conditions. In short, the whole literature of phthisis will have to be, and even now is being reconstructed in the light of this great discovery.

THE TREATMENT OF PULMONARY DISEASES BY MEANS OF "PNEUMATIC DIFFERENTIATION."[1]

BY VINCENT Y. BOWDITCH,

OF BOSTON.

It is my purpose to speak of a new method of treatment for pulmonary disease, which was brought to my notice not long since in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, February 14, 1885, in which the writer referred to an article in the *New York Medical Record* of January 17, 1885, by Dr. Herbert F. Williams, of Brooklyn, New York, who speaks of the "Antiseptic Treatment of Pulmonary Diseases by means of Pneumatic Differentiation," and records with their results a series of cases which have undergone this method of treatment.

I speak of it as a new method, because I believe it to be a step forward in the treatment of one of the most formidable diseases with which we have to contend, and whatever may be the results of future investigations, I deem it worthy of the careful consideration of all members of the regular profession, and if the results are not what we have been led to hope for, we can, at least, say that no harm has been done by our endeavor to find a new weapon against a terrible disease.

The treatment of pulmonary diseases by the inhalation of compressed and rarefied air has been for several years used by well-known scientific men with apparent success in many cases in Europe, especially in Germany, and to a much greater extent than in our own country, where I think I am right in saying that comparatively little attention has been paid to either method by members of the regular profession. Various irregular practitioners have used inventions of their own, having more or less similarity to each other, for the disease in question, but whether from the fact that such people usually keep their inventions to themselves, or because they have been proved to be utterly worthless, no marked movement toward a general adoption of such therapeutic measures has been made.

It has been my good fortune in studying the subject to come across the methods of treatment of one or two irregular practitioners, which at first seemed to resemble closely that adopted by Dr. Williams, but which upon closer examination were found to differ in essential points. Of these methods I shall speak more fully later.

The treatment of pulmonary diseases by means of compressed and rarefied air, as used in Europe, is meant chiefly to accomplish the same result as removal to some different section of the country where the air has the requisite degree of density or rarefaction for the treatment of the disease in question. To obtain this, air-tight compartments are constructed, in which the patient sits for a given time, and the air is then partially exhausted or compressed, according to the needs of the case, which treatment is continued for a certain number of hours in the day for several weeks, or possibly months, and the results seem to justify the fact that these methods are

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, May 13, 1885.

in constant use in Europe.[1] Various portable instruments have been devised by different scientific men for inhalation of compressed air, and *vice versa*, the best known being the apparatus of Waldenburg, of Tobeld, of Schuitzler, or of Geigel and Meyer; also another of J. Solis-Cohen,[2] of Philadelphia, all being modifications of the same idea, illustrations of which I shall show you to-night, as seen in books upon the subject. It will be noticed that in the use of these last-mentioned instruments the surface of the body is exposed to the ordinary atmospheric pressure, whereas in the case of the pneumatic chambers the atmospheric pressure upon the body and in the lungs is increased or diminished according as the air in the cabinet is compressed or rarefied.

Still another method has been invented by Hauke, called by him the "Wärme," or tub, spoken of in Ziemssen's "Handbuch der allgemeinen Therapie;" but as far as I can discover, the apparatus has not been universally used. In following out this method, a rubber hood, closely fitting about the head and leaving the face only exposed, comes down over the shoulders like a shirt. The patient is then made to lie down in the "Wärme," which in shape resembles a tub, having a close-fitting rubber cover which encircles the neck of the patient, and the hood is then fastened to the edge of the cover by means of an elastic band. The air is then partially exhausted from the interior of the "Wärme, which decreases the atmospheric pressure over the surface of the body, with the exception of the face. Upon inspiration the increased pressure of the outside atmosphere materially tends to expand the lungs from within, and the inspiratory act is greatly facilitated, whereas the expiratory act is proportionately increased, and a calisthenic action of the lungs and chest-walls is thereby obtained to a greater degree than by the ordinary respiratory movements.

A similar method to this was adopted by an irregular practitioner, entitled "The Hadfield Body Receiver for the New Haven Vacuum Cure," used, I have been informed, in 1869, a sketch of which I have with me.

I have mentioned quite superficially the various methods used by the regular profession in so-called pneumatic therapeutics, so far as I have been able to learn of them, that you may be able to understand the general principles of their use, and before speaking of Dr. Williams's cabinet it is only necessary to mention the various methods of inhalation familiar to us all, used all over the world in the treatment of pulmonary diseases; for example, inhalations of atomized sprays of different substances, of the use of rooms filled with medicated vapors, etc., all of them seeming to have met with more or less success, but too numerous to do more than mention here as they bear upon Dr. Williams's method of treatment.

[1]Compartments of this nature exist in Lyons, Montpelier, Nice, Stockholm, London, and St. Petersburg, also in several places in Germany, but I am not aware that any similar chambers are constructed in this country. They are expensive and need the care of experienced persons in the regulation of the various devices used in connection with them, and it is probably for this reason that they are not more universally used.

[2]Solis-Cohen's article in New York Medical Journal for October 18, 1884, entitled "Compressed and Rarefied Air as a Substitute for Change of Climate."

In March, feeling much interested in what I had read of the Pneumatic Cabinet, I went to Brooklyn and was there enabled, through the courtesy of Dr. Williams, to study the apparatus thoroughly, and to examine three or four of his cases which had derived marked benefit from the use of the so-called differentiator. The cabinet is made of iron, and resembles a large iron safe in general shape, in one end of which is a large, thick glass window. It is between six and seven feet high, about three feet wide, and from three and one-half to four feet long, in short, large enough for a man or woman to stand up or sit down in comfortably. Opposite the window is a heavy iron door edged with rubber and furnished with heavy bolts, all moved easily by one handle, so that the door can be instantly opened. Beneath the window is a projection in the side of the cabinet to accomodate the patient's knees when sitting with the face near the window, the same projection serving on the outside as a shelf upon which the atomizer used with the apparatus is placed. Passing through the glass window is fixed a short gutta-percha tube about one and one-half inches in diameter, having a stop-cock on the outside, and ending in a trumpet-shaped opening for receiving the spray, the inner end being fitted with a movable rubber tube and mouth-piece for the patient's use. Near the cabinet stands a cylindrical iron vessel, from which the air is as nearly as possible exhausted, communicating with the interior of the cabinet by means of a pipe and stop-cock. A barometer, connected with the inside of the cabinet to show the amount of rarefaction of air in the interior, is fastened to the outside of the cabinet.

The patient enters the apparatus, seats himself opposite the window; the door is closed and the stop-cock of the pipe connected with the vacuum is opened. The air from the cabinet rushes to the vacuum, and when the barometer shows a depression of two-tenths of an inch the stop-cock is again closed. A spray, usually of carbolic acid, iodine, iodoform, or bichloride of mercury, either singly or in combination with each other, is then put in front of the inhaling pipe; the patient is directed to insert the end of the tube in his mouth, closing the lips over the mouthpiece, at the same time compressing the nostrils with his fingers to prevent the air rushing out through his nose; the stop-cock is turned and the outside air rushes in, carrying with it the medicated spray and causing a more forcible involuntary inspiration, giving one the sensation of having taken an unusally full, deep inspiration; the patient then, by a voluntary forced expiration, exhales through the tube again, and continues these respiratory movements several times. Upon the least feeling of fatigue the stop-cock is turned and the patient, after removing the tube from his mouth, breathes the rarefied air of the cabinet again until ready for a second trial. The time occupied in this treatment varies from ten to thirty minutes, and usually daily applications are made, the greatest number given, according to Dr. Williams's pamphlet, being one hundred and thirty-five. The amount of rarefaction used in the beginning is never more than

what would cause one-tenth or two-tenths of an inch depression of the mercury, but during the treatment a gradual increase of rarefaction may be used, up to an amount causing a one-inch depression of the mercury, although in many cases, doubtless, even a greater degree of rarefaction could be used with benefit aud without evil results.

The only peculiar sensation which may be noticed in the beginning of the treatment is a slight crackling in the ears, as the air is being exhausted from the cabinet, but if the patient be told to swallow two or three times, this symptom will entirely disappear.

It will be seen, I think, from the foregoing description of the apparatus that what it accomplishes is twofold in its nature, namely: it produces a much greater expansion of the lungs than is possible by an ordinary full inspiration; and, at the same time, the medicated spray being carried with much greater force than by a natural inspiration is deposited in the deeper portions of the lungs in a much more thorough manner than by any other method that I know of, or has been proved satisfactorily by Dr. Williams in a series of experiments referred to in his pamphlet.

As to the principle of his cabinet, it will be noticed that it resembles in theory the "Wärme," or tub, of Hauke, before mentioned, in which atmospheric pressure on the surface of the body is lessened, the face only being exposed to the outside air; but the simplicity of Dr. Williams's method, by which the patient is enabled to undergo the process without the discomfort of putting on extra coverings, as in Hauke's plan, will strike every one, to say nothing of the greater thoroughness with which the purpose is accomplished. The chief merit of his cabinet lies, however, in the fact of the *combination* of the medicated spray with which the increased strength of the inspiratory movements. For full accounts of his cases which have undergone this treatment I must refer you to his pamphlet, merely remarking that the percentage of cases which have improved is most gratifyingly large and that it must be left to the future to determine whether others meet with equally happy results. I wish to speak, however, of three patients whom Dr. Williams kindly let me examine. [Cases I, II, and IV, were read from Dr. Williams's pamphlet].

Upon examination of case 2 of Dr. Williams's pamphlet, I found him to be a young man of rather delicate build, but otherwise looking well, and to all outward appearances in good health. Percussion of the right chest showed slight dulness in that region, and upon auscultation a faint crumple was heard, and the respiratory murmur was harsh, but the gurgling sound and the amphoric quality spoken of at the first examination I did not get. The young man spoke of himself as feeling all right, but upon closely questioning him I found that he had a slight cough upon arising in the morning. Of the evident marked improvement from his previous condition as described, no one would doubt; he had been able to resume his work a year previous.

CASE 1 (a young lady), when I saw her, looked rather pale and anæmic, but her mother spoke to me especially of the condition in which her daughter was before beginning the treatment, and of her belief that she was well. Examination of right chest showed dulness and crumpling with inspiration,—a marked difference from the signs noticed before,—and the patient was able to do, as far as I could learn, everything that the other members of the family were accustomed to.

CASE 4, which was complicated with empyema, looked perfectly well, showing a slight fistula in the left chest. Upon examination, all the signs of a former empyema on the left side were present. Dr. Williams also spoke of the presence of a slight crumple, heard at one time under the right clavicle in the course of the disease, but after the continued use of the cabinet it disappeared, and when I examined him the inspiration was absolutely pure at that point.

In regard to the first two cases it should be said that Dr. Williams does not wish to claim that they are insured against a return of the trouble: on the contrary, he thinks that they both will eventually die of phthisis; but he does claim the greatest improvement and an arrest of the disease, and, as far as outward appearances are concerned, a return to health. He hopes for the greatest benefit to arise in those cases of incipient phthisis where there seems to be nothing more than a catarrhal condition of the lung, and his one desire is that his method of practice shall be given a fair trial by members of the regular profession everywhere. In those cases, moreover, of a slowly expanding lung after pleuritic effusion, the mere mechanical treatment of the cabinet can be of great assistance in promoting expansion.

In every collection of cases of this sort, it is only right that we should carefully weigh every evidence for and against the justice of the conclusions drawn. In the cases enumerated in Dr. Williams's pamphlet we must think of the moral effect of the new method upon the patient. No doctor is unaware of the marvelous influence which the mind has over the body, and of the marked improvement which often takes place in the general condition of a patient upon trying a new physician or a new method of treatment. We must think, moreover, of the possibility of the enthusiasm of the inventor blinding his eyes to certain facts which must be considered, while wishing at the same time to be perfectly fair and unbiased in his statements; we must also not be too greatly influenced by the delight of friends and relatives, who, seeing a marked improvement in one dear to them, exaggerate to themselves the signs of a return to health. Nevertheless, with a collection of cases such as Dr. Williams gives us in his pamphlet, it becomes the duty of responsible physicians throughout the country to investigate the subject thoroughly in a spirit of perfect fairness and without prejudice, and to let the future decide whether others meet with equally successful results.

It has been my desire since seeing Dr. Williams's cabinet to find if any similar method of practice has been used before; and my attention was called to a cabinet used by a practitioner not of the regular

profession in this city. In a pamphlet issued by him, a woodcut of his cabinet was shown which seemed to resemble almost precisely in principle that of Dr. Williams; and the description of its use as expressed in the pamphlet led me at first to believe that they were identical, with the exception that no attempt was made to use a spray in connection with the cabinet. I visited the gentleman and was received with courtesy, and the principles of the cabinet were explained to me. The description of the apparatus in the pamphlet speaks of the air being partly exhausted about the patient at his will. Upon questioning the gentleman more closely, however, I found that the breathing-tube and stop-cock on the inside of the cabinet were not used at all in the same manner as in Dr. Williams's apparatus; and I cannot do better than quote the gentleman's words as nearly as possible: "I exhaust the air in the cabinet to an amount causing a pressure on the outside of the cabinet of of about three to five pounds to the square inch (an equivalent of a depression of six to ten inches of the mercury), and direct the patient if he become nervous to open the stop-cock *very slightly*, so that the outside air may enter enough to reassure him, and then let him sit in the rarefied air for a certain length of time, and at the end of the sitting make him take one or two deep inspirations to expand his lungs, opening the stop-cock a little at the same time, the end being in the mouth." From this description it will be seen that his method resembles more those previously spoken of, in which the patient merely sits in a rarefied atmosphere for a given time No attempt is made to breathe in and out, as in Dr. Williams's cabinet; indeed, this would be impossible with the great amount of rarefaction used, for the force of air rushing in through the wide open stop-cock would severely injure the patient; moreover, as I said before, no attempt is made to combine the spray with his apparatus. So it will be seen how essentially the two methods differ at the outset, to say nothing of the fact that while in the one case we are dealing with a scientifically educated physician, in the other we come in contact with one who professes to "diagnosticate his case by his eye"; who "never auscults nor percusses his patients nowadays," and who "draws the corruption out through the skin," etc., etc.

I have endeavored to give the important facts relating to Dr. Williams's apparatus, and to show how it differs from other methods of treatment as far as I have been able to learn of them by reading or by personal observation. My object will be accomplished if the paper shall excite discussion; and I trust if there is any one present who knows of methods of treatment resembling those of which I have spoken, he will speak of them to the Society this evening.

REFERENCES.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for February 14, 1885. Editorial on Dr. Williams's article.

New York Medical Record for January 17, 1885. "Antiseptic Treatment of Pulmonary Diseases by Means of Pneumatic Differentiation." By Herbert E. Williams, M.D. Brooklyn, N. Y.

Ziemssen's "Handbuch der allgemeinen Therapie." I. Band. IV. Theil. Edited by Oertel, 1882.

Hassall's "Inhalation Treatment of Organs of Respiration, Including Consumption." London. 1885.

New York Medical Journal for October 18, 1884. "Compressed and Rarefied Air as a Substitute for Change of Climate." J. Solis-Cohen. Philadelphia.

MEDICAL PROGRESS.

OBSTETRICS AND GYNÆCOLOGY.

OPERATION FOR THE CURE OF STERILITY IN CASES OF CONICAL CERVIX WITH FLEXION OF THE CERVIX.—DR. GRAILY HEWITT, in describing this operation, says: One of the rather common causes of sterility in women is the presence of what is termed "conical" cervix. This term expresses, however, only imperfectly the real explanation of the difficulty. More generally the vaginal portion of the cervix is elongated, as well as conical, and the whole of the cervical canal is also, in the majority of cases, much curved. These are the cases *par excellence* which have been termed by Emmet "flexion of the cervix." In such cases, the uterus appears to have gone through a series of changes subsequently to arrival at puberty, namely, (1) imperfect nutrition; (2) softness and want of tone; (3) gradual acquirement of anteflexed shape, mainly as a consequence of the imperfeet nutrition and softness of the uterus; and (4) a further and exaggerated condition of flexion of the cervix of the uterus. Resting on the floor of the vagina, the vaginal part of the cervix becomes, as it were, doubled up, so that the os uteri looks upwards and forwards. The condition of the uterus thus associated with conical cervix constitutes one very difficult to deal with, especially if, as sometimes happens, the uterus, as a whole, be tilted backwards, constituting retroversion, conjoined with extreme anteflexion.

Thus, the vaginal cervix is not only too long, but it is sharply curved, and the combination appears to be a great obstacle to conception.

Two principal methods have been heretofore recommended, namely, (1) amputation of a portion of the cervix; and (2) opening out the cavity of the cervix by a median incision through its posterior wall, as recommended by Emmet and Sims. Another method of treatment would be the use of an intra-uterine stem.

A short time since, a patient, with a very decidedly curved and elongated cervix, was sent to me. The patient was very anxious to have a family, and suffered much from disturbance of micturition, and difficulty and pain in walking, due to the anteflexed uterus. She had been married four years. She was treated by means of a cradle-pessary, modified to suit the case, with success as regards general comfort, but the sterility remained. Last year, I performed an operation on this patient, which I now describe, and which seems to me worthy of further trial in such cases. My object was to straighten, as well as shorten, the cervical canal as regards its vaginal portion.

Having drawn down the cervix, I removed from its posterior aspect, in the median line, a portion of mucous membrane, nearly an inch in length vertically and half an inch wide, and, having done this, stitched the upper and lower margins together; the effect of the procedure being to shorten the vaginal cervix on its posterior aspect, to draw the os uteri backwards, and thus straighten the vaginal cervix and increase its patency. When the stitches, three in number, were tightened, the vaginal cervix was made to look

downwards, instead of upwards. The sutures were removed after a few days. The operation was done at the beginning of the year 1884, and the patient informed me recently that she expected her confinement in the beginning of May.

I consider the above a better procedure than amputation of the vaginal portion, because it leaves the os uteri in a natural state; and I think it preferable to Emmet's operation, because it leaves the cervical canal intact. The uterus, as a whole, is less mutilated by this procedure, and presumably, its functions may be supposed to be better exercised when the cervical canal and the os uteri externum are preserved. It may be remarked that the use of the stem is less likely to be attended with benefit in these particular cases; for the vaginal portion is too long, and something must be done to shorten it, although the use of a stem might be useful, in order to further improve the patency of the cervical canal, after the vaginal portion has been shortened by the procedure above described. In the case related, however, the operation alone appeared to produce satisfactory results. —*British Medical Journal*, June 13, 1885.

SURGERY.

EXCISION OF THE RECTUM FOR EPITHELIOMA.—DR. GEORGE ELDER reports, in the *Medical Chronicle*, for June, 1885, the case of a woman, æt. 44 years, with a good record of family and personal health, who for nearly a year before her admission into hospital, Nov. 29th, 1884, had been losing flesh and condition, but at first the local symptoms were so slight that they were attributed to a passing attack of piles. As time wore on, the bleeding, which had been only slight and occasional, became more profuse, and occurred with every movement of the bowels. There were also distressing fits of rectal tenesmus and colicky pains, and the motions, which for months had not been natural in size or form, finally were small, unformed, and forced by the habitual use of purgatives. There was a constant oozing of bloody slime, but except at defecation, when pain and straining were severe, there was but little uneasiness. On digital examination, about three inches up the bowel, and on its anterior surface a friable, mushroom-shaped growth, with a broad attachment, could easily be felt. The free mucous membrane above it was beyond the reach of the finger.

On Dec. 9th, with patient under the influence of ether, a semicircular incision was made around the upper and lateral margins of the anus, and the necessary dissection completed, partly by the knife but mainly by scissors. Only two arteries required ligation. To expedite matters, after the bowel had been partially freed it was cut away, so that traction could be the more easily applied, by means of vulsellum forceps, to the remaining portion. When sufficient had been separated an ecraseur wire was applied well beyond the growth, and this completed the operation. In all, rather more than three inches of the anterior two-thirds of bowel were removed. On Jan. 10th the wound had fairly healed, and a good sized formed motion was passed, causing her pain if she strained. On Feb. 6th the patient said she had perfect continence of fæces, and passed daily, without the use of aperients, a formed motion.

Microscopic examination of the growth showed it to be a cylindrical-celled epithelioma.

LOCALIZATION OF THE ANO-VESICAL CENTRE.—KIRCHHOFF (*Archiv für Psychiatrie und Nervenkrankheiten*, Band XV, p. 607, 1885), describes a case of fracture of the first lumbar vertebræ in a man, aged 30 years, who had fallen from a horse on the nates. Immediately after the accident the patient was paralyzed in the lower extremities, and had to keep his bed for a quarter of a year. During this time he suffered from pains in the legs and vertebral column, while the urine had to be withdrawn for the first three weeks by the catheter, but afterwards there was incontinence, and the urine, which was at first clear, became turbid and fœtid. In addition, there was an involuntary discharge of fæces. The condition of the patient improved under treatment, and he was again able to walk, but the paralysis of the sphincters remained. The accompanying cystitis was also improved by treatment, but it always recurred, and ultimately it became complicated by a pyelo-nephritis with the usual elevation of temperature, and the patient died nineteen months after the accident. At the autopsy, the portion of the vertebral column consisting of the eleventh and twelfth dorsal and first three lumbar vertebræ was removed and sawn longitudinally. It was then seen that the first lumbar vertebra was compressed into the form of a wedge, with the point directed forwards, while the base, which scarcely measured two cm. in vertical extent, was directed backwards, and displaced so that it encroached to the extent of one cm. upon the vertebral canal. The whole of the spinal cord in the portion of the vertebral column removed was small and atrophied, while opposite the first lumbar vertebræ it was flattened and pushed to one side. The atrophy had reached its highest degree at the conus medullaris, especially on the right side and on a level with the origin of the second, third and fourth sacral nerves.

Transverse sections at these levels showed that on the right half of the cord the white columns were much atrophied, and that the ganglion cells had disappeared from the anterior cornu. The nerve roots themselves were intact. The author argues from this case that the ano-vesical centre is situated on a level with the third and fourth sacral nerves, the portion of the cord which was the chief seat of the lesion, a locality which almost corresponds with the sacral-nuclei of Stilling.—*Medical Chronicle*, June, 1885.

EXCISION OF BOTH BREASTS AT THE SAME TIME.—MR. JONATHAN HUTCHINSON closes a paper on this subject as follows: If it be asked whether, in cases of double disease, it is better to remove the two breasts by a single or by separate operations, I would venture, without hesitation, to recommend a single one, as probably involving both less risk and less inconvenience to the patient.—*Brit. Med. Jour.*, June 13.

THE
Journal of the American Medical Association.
PUBLISHED WEEKLY.

THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

SUBSCRIPTION PRICE, INCLUDING POSTAGE.
PER ANNUM, IN ADVANCE..... $5.00
SINGLE COPIES..... 10 CENTS.

Subscriptions may begin at any time. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED letters.

Address
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 65 RANDOLPH STREET,
CHICAGO, ILLINOIS.

SATURDAY, AUGUST 1, 1885.

THE INTERNATIONAL MEDICAL CONGRESS AND ITS ENEMIES.

The further the few members of the profession, in three or four cities, who made the mistake of supposing they constituted the embodiment of the medical profession in the United States go, in trying to justify their deliberate attempt to obstruct the necessary preparations for a proper organization of the Congress, the more they involve themselves in gross inconsistencies and misrepresentations. Under the head of "Why the New Organization of the Congress should be repudiated," the Editor of the *Medical News* attempts to give the reasons why the action of the Committee of Arrangements at its meeting in Chicago should be rejected.

The editorial mentioned (see the *Medical News*, July 25, 1885, p. 96) contains five paragraphs, each of which contains one or more misrepresentations of fact, although the *reasons* given are only two, and are stated in the first paragraph as consisting in part of a "disapproval of the rules adopted by its managers, and in part of the fact that these managers are not men who should be endorsed to the world as the leaders of the medical profession of the United States." It is worthy of note, that these two are the *only reasons* that have been given in any quarter for all the bluster and bravado of opposition thus far exhibited. And it would be a sufficient answer to both, to say, as we have said substantially before, that there is *no* "New Organization" of the Congress in existence. Before the work done by the Committee of Arrangements in Chicago could be completed or made ready for publication, the preconcerted game of bluff was commenced, and a most industrious effort made to propagate the *strike* throughout the country. Yet after the lapse of a full month the whole number of those whose names have been announced as having refused to accept any position in the Congress under what they are pleased to call the "New Organization," is only about ninety, of the nearly five hundred embraced in the proposed organization; and certainly only an infinitesmal fraction of the 40,000 members of the profession embraced in the American Medical Association and the several State and local societies in affiliation with it.

By "managers" the objectors must mean the members of the Committee of Arrangements consisting of one from each State, and selected by the delegation of each State present at the meeting in New Orleans. This body of representative men, selected not by the presiding officer of the Association, nor by a committee that might possibly have been packed for the purpose, but by the representatives from each State acting by themselves and for the profession of their State, are sneeringly spoken of as "not men who should be endorsed," etc. It is well known that nearly all this sneering is really aimed at the member of the Committee representing the State of Pennsylvania, though the *News* has not the manliness to say so. But Pennsylvania was represented at the meeting of the Association in New Orleans by thirty-two delegates and permanent members, who alone are responsible for the selection of the proper man to represent the State on the Committee of Arrangements. In selecting Dr. John V. Shoemaker they certainly secured an active, industrious, and efficient representative on the Committee. He had done good service as Chairman of the Section of Practice of Medicine, Materia Medica and Physiology at the meeting of the Association in Washington the year previous; and we suspect that the head and front of his offending consists in the fact that he has had sufficient courage, industry, and talent to push his way to position and influence in the profession without going through the hereditary ruts and mutual admiration circles, for which a part of the profession in the quaker city is noted.

Again says the editorial in the *Medical News:* "It is true that the New Orleans meeting by no means represented the Association, and was *specially packed* with delegates from two or three neighboring States, whose chief purpose in being present appeared to be to obtain control of the Congress," etc. It is a pity that the writer of that sentence had not examined a few figures before he ventured to record so manifest a misrepresentation. At the meeting in New Orleans there were present representatives from thirty-four

States, two Territories, the Medical Corps of the Army, Navy, and Marine Hospital Service. The only States not represented were Connecticut, Delaware, New Mexico, and Oregon. The whole number of members present was 635. The five States most contiguous to the place of meeting, and from which the Association is represented as having been *specially packed* with delegates, are Texas, Arkansas, Louisiana, Mississippi and Alabama; the first had 69 members present, the second 36, the third 49, the fourth 16, and the fifth 13; making an aggregate membership present of 183, to outvote a total of 635. They aggregated, indeed, twelve less than the five States of Pennsylvania with its 32 members present, Ohio with 37, Indiana 37, Illinois 55, and Iowa 34; making an aggregate of 195. The truth is, there has never been a meeting of the Association held, at which there was not a greater relative proportion of the membership present from the States contiguous to the place of meeting than in New Orleans. At that meeting the largest number of members present from any one State contiguous to the place of meeting was 69 from Texas, which was only about one-tenth of the whole number present, while at the preceding meeting in Washington in 1884, Pennsylvania alone had 213 members present, or more than one-sixth of the number; and at the meeting in Cleveland, Ohio, in 1883, the numbers present from the two most contiguous States, Ohio and Pennsylvania, numbered 302, or nearly one-third of the whole number in attendance. In the light of these statistical facts, the pretense that the meeting in New Orleans either did not represent the Association, or was "specially packed with delegates from two or three neighboring States," becomes too absurd to be entertained by any intelligent member of the profession.

But the editorial writer in the *News* reaches the climax of his recklessness and folly when he adds, in the same paragraph from which we have quoted, that the action of the Association at New Orleans was "the work of a comparatively small faction intensely desirous of office." When it is remembered that among the most prominent acts of the first Committee on the Organization of the Congress, in whose behalf the *News* is so clamorous, was the parcelling out of the chief offices of the Congress to themselves until not one of their number was left without an official position in the Congress, and some of them had three or four such positions, while the new Committee, composed of men whom the *News* calls a faction "intensely desirous of office," have appointed not one of their number to a general office in the Congress, but have with a just sense of propriety limited themselves strictly to the work of a Committee of Arrangements, the reckless and desperate straits of those selfish leaders who are vainly endeavoring to maintain the little game of bluff by which they hoped to successfully obstruct the proper preparation for the Congress, become painfully apparent to the most superficial observer.

Before going further in this work of misrepresentation and purely factious opposition, we commend to their careful study the letter on a subsequent page of this number of the JOURNAL, headed "Data for the History of the Ninth International Medical Congress," which is from the pen of one of the most eminent and most widely known members of the profession in America. As therein stated, the Ninth International Medical Congress will be held according to apppointment. The Association by which it was invited will see that it is officered in all its departments by as eminent and honorable men as exist in the medical profession of our country. And if the obstructionists desire to have any part in the good work, they will lose no time in converting their opposition into an honest coöperation in enabling the Committee of Arrangements at its special meeting, on the third of September, to complete its work of organization in a satisfactory manner.

THE FRENCH COMMISSION AND DR. FERRAN.

In the editorial columns of the JOURNAL of July 25, we spoke of the almost necessarily futile results of vaccination against cholera; and in the miscellaneous department of the same issue of the JOURNAL we gave an abstract of a letter from an American physician to the *Chicago Tribune*. *Le Progrès Médicale*, of July 11, contains an abstract of the report of MM. Brouardel, Charrin and Albarran, the Commission sent by the Académie de Médicine to Spain to investigate the alleged discoveries of Dr. Ferran. This report is of two-fold interest, as showing the depth to which a member of an honored and honorable profession can sink himself in charlatanry and quackery of the worst form; and also as pointing a moral for those who have entered, and those who propose entering, the fields of scientific research.

We cannot give so much space to this article as does the paper from which we take the following summary. This Dr. Ferran absolutely refused to give any information as to his methods, or to give a specimen of his culture fluid to the Commission, to allow them to work in his "laboratory," or to allow them to see him work. The room which he dignified with the name "laboratory" contained, besides an engineer, a "lawyer" and an accoucheur, two micro-

scopes, neither of which were of greater power than seven or eight hundred diameters (and for all practical purposes in studying micro-biology one might almost as well use a pocket-lens), a very primitive stove, without a regulator; no materials for coloring or staining, for which it seems this unblushing quack has no need; some gas-burners, and a few quarts of bouillon. Such, says the Commission, was the scientific outfit of Dr. Ferran. This inventory would be alone sufficient to convince any biologist or scientific man that there was something wrong. No one can blame a man for being too poor to buy apparatus—and had Dr. Ferran convinced any scientific man in Europe that he was doing good and honest work, and that he had not the means for obtaining apparatus, we are certain that he would not have been long without them.

Having given some idea of his apparatus, and especially his microscopes, it is obviously unnecessary to quote his assertions regarding the various evolutions of oögones, oöspheres, spores, etc. A man with an obedient and hypertrophied imagination, and an inferior microscope, can always see what he wishes to find; and these taken in connection with dishonesty and a desire for notoriety and gain, go far towards supplying a deficiency of apparatus. Dr. Ferran, seemingly to avoid an inquisitive committee, had not preserved preparations or specimens of the comma-bacillus in its stages of evolution. The whole report of the French Commission may be summed up in the very significant words: tout ce que nous avons pas voir nous-mêmes n'était pas nouveau, et tout ce qui était nouveau nous ne l'avons pas vu. To every appeal and question as to his methods Dr. Ferran replied that his secret was for sale; he wished to be assured of the Bréant prize of 100,000 francs.

It would seem but waste of time for anyone to go to further trouble to investigate this gigantic fraud. If Ferran thirsted for fame, he may be certain that he has attained that kind which is known as notoriety. His example should be a warning for all time to those who would gain reputation or wealth by dishonest work. Of the results of the inoculations it need only be said that the French Commission declares and proves that the statistics are false and wholly unreliable.

A RETROSPECTIVE VIEW OF GENERAL GRANT'S CASE.

The medical history of General Grant's case has not yet been fully reported; but on account of the high position of the patient, the general interest in his case and the publicity given to every movement, we may say, of either the patient or the physicians, and the amount of professional and lay criticism, just, unjust and silly, it seems quite proper to give what we may call a *post mortem* opinion of the case.

In some respects there is a certain similarity between this case and that of the late President Garfield; and so far as we remember just now, it is the third case in which public interest in the patient was so great that it was necessary to issue bulletins to the public newspapers, the first case being that of the Prince of Wales, when sick with typhoid fever at Sandringham, some years ago. In the case of the Prince of Wales the diagnosis was exact, but the outcome necessarily uncertain; in the case of President Garfield the exact nature of the injury was not known, and the termination uncertain until the autopsy showed that it could not have been otherwise. In the case of General Grant the diagnosis was exact, and the termination but too certain.

It will be remembered that the eminent surgeons in charge of President Garfield's case were criticized by the public, who knew nothing of the case, and by many medical men who should have known better,—but did not. To say nothing of certain nameless critics in America, so eminent a man and surgeon as Professor Esmarch blundered through several pages only to show how much better it would have been had he said nothing. And within two weeks a kinsman of President Garfield has exhibited a spleen and an amount of silliness which is quite surprising, by asserting that the surgeons and not the bullet killed the late President. In a former editorial we took occasion to speak of the worse than puerile criticisms of certain newspapers concerning the manner in which General Grant's case was being conducted. Those who wrote those criticisms possibly see now how absurd and out-of-place were their ridiculous comments. But more unjust, if possible, than the criticisms of the newspapers, were the unprofessional animadversions of a few medical journals, which stigmatized the bulletins of Gen. Grant's physicians as "advertising dodges." The mere fact of being a consulting or attending physician in that case was a sufficient advertisement, and the bulletins issued were courtesies extended to a sympathetic public.

In conclusion it should be said that there is nothing in the history of the case to show that the physicians were at any time mistaken as to diagnosis or prognosis—nor is there any reason for believing that the treatment should have been different from that which was faithfully and patiently carried out. What might have been the result had the case been taken in hand at an earlier date can only be conjec-

tured; but it is likely that death could, for a time at least, have been averted had the case been treated surgically nine or twelve months ago. At any rate, it is a warning against delay in seeking medical advice, especially in cases of tumor, and more especially in cases of tumors of the mouth.

"SHOULD PROPRIETARY MEDICINES BE REQUIRED TO GIVE AN ACCOUNT OF CONTENTS?"

Such is the title of a paper read before the Michigan State Medical Society, at its late annual meeting, by PROFESSOR ALBERT B. PRESCOTT, of Ann Arbor. Putting the question in a more proper form, "Should Manufacturers of Proprietary Medicines be required to publish the Constituents of these Preparations?" it is one which would probably be answered affirmatively by every physician and every person interested in public health.

In some countries, as France, the State acts on the principle that it is the guardian of the adult individual, so far as health is concerned; but in the United States the individual is generally presumed to be capable of judging for himself in these matters—and whether this is more of a presumption or an assumption it is difficult to say. Few things are more apparent than the dense ignorance of the masses as to the most common-sense principles of health and treatment of sickness. This is apparent even in the higher walks of life, among educated and cultivated people (such as editors of daily newspapers). Professor Prescott very justly says that as the State, in this country, does not assume such charge of the individual as in some other countries, there is all the more reason that he should be protected in the matter of buying proprietary medicines: should "be protected in the exercise of his greater liberty in the selection of remedies, protected against the mistakes of the careless and against the deceptions of the dishonest. If the State so far respects the right of private choice that no medicine requires a legal sanction for sale, so much the more must the State place safeguard against fraudulent imposition upon private choice, and provide favorable opportunity for its more careful exercise. In this protection of the individual, it has long been required that a 'poison-label,' with the name of the article liable to act as a poison, shall be placed upon every package of powerful medicine that is dispensed without a physician's record."

At the meeting of the Michigan State Medical Society at which this paper was read, the Committee on State Sanitation was instructed to present "a draft of a bill for a State law requiring proprietary medicines to carry a statement of their constituents"; and we hope that the Committee will change the letter of their instructions so that the bill will be directed against the manufacturers and not the medicines. And to render the law operative, and to prevent fraud, the State Analyst should be instructed to make analyses of all proprietary medicines, bought in open market, at such times as he may think proper or the Board of Health may direct. Furthermore, the bill should provide that the names given to the constituents of the proprietary articles shall be such as may be found in dispensatories or pharmacopœias.

Just how much good such a law would do it is impossible to estimate. There can scarcely be a doubt that, if enforced, it would do some good; it might possibly mitigate the nostrum evil to some extent. But what is needed in this country is a law forbidding the manufacture or sale of any proprietary medicine until a competent body of medical men (such as the National Board of Health, or a Committee from the Army or Navy Medical Department) has subjected it to chemical analysis and therapeutic trial; forbidding the advertisement of it as a cure or specific for other affections or diseases than those specified by the acting body; and requiring that the formula be published on each bottle or package.

SOCIETY PROCEEDINGS.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

21st Annual Session, held at the Pequot House, New London, Conn., July 15 and 16, 1885.

THE PRESIDENT, WILLIAM F. NORRIS, M.D., OF PHILADELPHIA, IN THE CHAIR.

WEDNESDAY, JULY 15, FIRST DAY.

DR. C. R. AGNEW, OF NEW YORK, read a paper entitled

OPERATION FOR REMOVAL OF DISLOCATED CRYSTALINE LENS.

The patient had been blind as long as he could recollect. The iris was tremulous, the lens was opaque and very movable. The eye had been painful for some time and recently the other eye had also attracted attention. The vision in this eye was $^{20}/_{15}$.

The operation for the removal was as follows: The patient was etherized and cocaine was applied. The eye was secured with fixation forceps. An instrument resembling a two-pronged fork, termed a *bident* was introduced into the vitreous chamber behind the dislocated lens, pressing it forward. The bident transfixed the eye and held the lens in posi-

tion. Section was then made in the ordinary manner and the lens removed. The eye was dressed with absorbent cotton and a black silk bandage. Antiseptic solutions were used and a four-per-cent. solution of cocaine was applied twice a day. The eye recovered without any unpleasant symptoms. The ophthalmoscope revealed atrophy of the choroid and retina. The speaker did not claim that all dislocated lenses should be removed, but this instrument facilitated the operation when it was required.

Dr. David Webster, of New York, reported an

EXTRACTION OF A DISLOCATED LENS BY DR. C. R. AGNEW'S BIDENT.

The patient received a blow on the right eye. This was immediately followed by loss of sight. Examination showed that the lens was dislocated. No treatment was recommended at that time. Some months later, pain suddenly appeared in the injured eye. The lens was found to be cataractous and incarcerated in the pupil. Cocaine was applied but did not relieve the pain. Atropia relieved the pain. Later the lens became loose and was found in the vitreous. The tension was normal. It was decided to remove the lens. The bident was passed back of the lens, pressing it forwards. The incision in the cornea was then made and the lens removed with a spoon. The eye was dressed with absorbent cotton and recovered without complication. V=$^{20}/_{100}$ with 4.5s. With the bident many eyes may be saved if the lens can be brought in sight. There is no danger from injury of the ciliary body.

Dr. H. Knapp thought that in these cases there was not much difficulty in removing the lens, which could often be accomplished with the loss of very little vitreous, but the danger came in afterwards from inflammatory complications and there the sight was lost. He thought it better to at once enucleate the eye and thus lessen the dangers of inflammation. He considered the bident, which was exhibited, to be an ingenious instrument. For the past six or eight years he had not introduced an instrument within the globe to facilitate the removal of the lens. This he was able to accomplish by external manipulation.

Dr. E. Williams, of Cincinnati, considered the instrument an ingenious and useful one, but in most cases he agreed with Dr. Knapp that in most cases enucleation was the best procedure.

Dr. C. R. Agnew thought that the bident might be useful in the removal of foreign bodies from the interior of the eye. He did not acquiesce in the view that enucleation was a simple operation. He regarded it as a serious mutilation.

Dr. C. H. Williams, of Boston, thought that there was another alternative than those mentioned, and that was the removal of the contents of the eye and closure of the anterior opening with sutures. It gives a better stump for the artificial eye.

Dr. D. B. St. John Roosa, of New York, reported a case of

EXTRACTION OF THE LENS IN ITS CAPSULE.

For the past three years the doctor had been in the habit of removing the lens in its capule. In a large proportion of cases without iridectomy. The use of cocaine has facilitated the operation. He referred particularly to the method of dislocating the lens. The section is made as usual, but large. After puncture and counter-puncture are made, the knife is turned on its back so that it rests on the iris. The knife is then moved up and down two or three times until the lens is seen to move, then the section is completed and then the lens can usually be removed with no loss of vitreous. The manipulations on the cornea are made with one or two spoons. Sometimes after the operation it is rolled under but in many cases the pupil is circular. The writer had performed the operation between thirty and forty times, and is satisfied with its success. If the lens is not dislocated, iridectory may be performed and the operation practiced. A paper on the subject is to be found in the Transactions of the New York State Society, and in the *Medical Record* for February 1885.

Dr. J. A. Andrews, of New York, read a paper on

THE TREATMENT OF PURULENT CONJUNCTIVITIS.

The treatment is based upon the belief that the contagious element is of the micrococcus variety. He related a case in which he had secured an inoculation of the seventh generation of a pure culture of a gonococcus. This is the first case inoculated with the gonococcus. He showed an instrument which he had devised to wash out the conjunctival cul de sac. It consisted of an eye speculum with hollow arms through which fluid may be passed. He had found bichloride of mercury solution (1 to 10,000) serviceable, but apt to irritate. A six per-cent. solution of carbolic acid is useful as it inhibits the movements of the white corpuscles. Irrigation should be maintained for ten minutes, in order to remove all secretion. Nitrate of silver solution (1 to 12 per cent.) is then used, and an antiseptic dressing is next applied. This consists of vaseline and boracic acid or carbolic acid; but he laid especial stress upon the importance of maintaining irrigation of the conjunctiva by means of the instrument referred to above.

Dr. Charles S. Bull, of New York, reported a case of

ABSCESS OF BOTH FRONTAL SINUSUS.

The patient had been hit on the forehead fourteen years previously with a piece of wood. This produced a fracture of both nasal bones and deviation of the septum. In seven weeks the wound had closed. Ten years after the accident a swelling was noted on the upper inner angle of the right orbit, which could be made to disappear by pressure. There was complete ptosis. An incision was made into the swelling just beneath the orbital margin and a large quantity of pus escaped (two or three ounces). The cavity was washed with a five per-cent. solution of carbolic acid. No connection with the superior nasal meatus could be detected, but the bony septum between the two frontal sinuses was absorbed, and both sinuses were converted into large cavities. The entire ethmoid bone was an immense cavity, the bony suture being absorbed. A number of osteo-

phites were removed. A drainage tube was introduced. The patient was discharged six weeks after the operation, and recovered completely. The ptosis disappeared, and the eye was restored to the normal plane.

DR. KNAPP recommended the substitution of a silver tube for the rubber drainage tube usually employed.

Dr. B. E. FRYER, of Kansas City, reported a case

OF BONY TUMOR OF THE ORBIT.

The patient, a boy six years of age, came under observation April, 1885. There was swelling of left orbid which included the whole line of the supercilliary ridge. It was quite hard. Some time before the boy had been struck by a piece of wood, but it was thought that no splinter had lodged beneath the skin. It was decided to remove the tumor. This was done, and on examination it proved to be a bony cyst, within which was a small piece of wood. This was enclosed in bone on all sides. The edges of the wound were brought together, and healing resulted without complication.

DR. NORRIS, of Philadelphia, presented a new sheet of

METRIC TEST LETTERS,

devised by DR. CHARLES A. OLIVER, of Philadelphia.

DR. E. E. HOLT, of Portland, Maine, reported

SOME OF THE RESULTS OBTAINED IN THE COMPILATION OF 1,000 CASES OF REFRACTION.

The writer had been in the habit of recording all the measurements connected with the prescribing of glasses. As a result he had found in 1,000 cases thus recorded, the average distance between the centres of the pupils of the human eye to be about 60 M.M. The average of other measurements were given and the importance of the physician determining and designating them, and then seeing that they were carried, was dwelt upon.

DR. GEORGE C. HARLAN, of Philadelphia, reported a case of

RAPIDLY PROGRESSING MYOPIA CHECKED BY SECTION OF THE EXTERNAL RECTUS.

The case was that of a boy of 16, in whom myopia was progressing rapidly. The external rectus was divided seven years ago. The internal rectus was also exercised by the use of prisms. Since then then there has been no increase of the myopia.

DR. SAMUEL THEOBALD, of Baltimore, reported

THREE CASES OF PROGRESSIVE ASTIGMATISM.

Astigmatism of traumatic origin, he remarks, is observed not infrequently to undergo changes in degree, but it has been commonly held that congenital astigmatism does not alter in degree, though the refraction of the eye as a whole may undergo marked change. The cases which he reported, he thought, proved that there were some exceptions to this rule. The first case was that of a young man who, with a high grade of hypermetropia, had astigmatism of each eye which required for correction, A plus $^1/_{20}$ C. The case was observed at intervals during a period of twelve years, and during that time the astigmatism increased until finally A plus $^1/_{13}$ C was needed to correct it.

The second case was one of compound myopic astigmatism in a young man, in which there occurred, along with an increase of the myopia, a growth of the astigmatism, during a period of 16 years, from $^1/_{16}$ to $^1/_8$.

In the third case a simple myopic astigmatism, in a physician 25 years, requiring A $^1/_{24}$ C in one eye and A $^1/_{30}$ C in the other for its correction, changed in five years so that A $^1/_{11}$ C and A $^1/_{13}$ C respectively, were needed.

The speaker regretted that the examinations had not all been conducted under a mydriatic, as they would then be more apt to carry conviction to the minds of those disposed to be sceptical regarding the progression of astigmatism. He did not believe that the result would have been different. Such cases are not frequent, but it is important that the fact should be recognized. As the increase of astigmatism is probably due to change in the corneal curvature, the phenomenon should be met with more frequently in the yielding myopic, than in the relatively stable hypermetropic eye.

AFTERNOON SESSION.

DR. LUCIEN HOWE, of Buffalo, exhibited an arrangement for the demonstration of refraction and accommodation. It consists of two bands of thin metals bent in such a manner as to represent the outlines of a double convex lens, and passing through it two jointed rods representing the rays of light ordinarily figured as passing through such a lens, and joining at its focus. The flexible bands were attached to each other above and below, so that by approaching or separating the sides, they could be made to show less or greater convexity. The rods representing the rays of light were jointed near the centre in such a way that while the two halves could be placed in such a direction as to show the light as entering parallel to the axis of the lens, the other two portions could be bent to a point to show the convergence of rays at the focus. By alteration in the position of these rods, and also in the forms of the bands representing the lens, all the different variations of the laws of refraction and the changes in accommodation can be demonstrated to a class.

DR. C. S. BULL reported

TWO CASES OF UNILATERAL TEMPORAL HEMIANOPIA.

The first case was that of a man aged 60, first seen in 1884. In 1849 he received an injury which rendered him unconscious. When he regained consciousness he found that he was blind in the right eye. In 1883 he noticed a central obscuration of vision in the left eye. There was no syphilis, no disease of the heart, and no indication of Bright's disease. He had never used alcohol to excess, but smoked and chewed tobacco in large amounts. There was an irregular central scotoma. The media were transparent and the iris normal. Both optic discs were of a dirty white color, and in both there was a deep excavation with pulsating veins, and in the left eye there was a retinal hæmorrhage. The tension was normal.

The second case occurred in a man aged 60. He had been knocked down by a horse, receiving a depressed fracture of the frontal bone above the left eye. The patient was unconscious or delirious for four weeks following the accident. When he regained consciousness, he found that the left eye was blind. Examination showed that in the left eye there was somewhat irregular temporal hemianopsia. This may have resulted from fracture of the superior orbital plate, with injury to the fibres of the optic nerve going to the temporal half of the retina.

Dr. Hasket Derby, of Boston, reported

TWO CASES OF PENETRATION OF THE EYE-BALL BY SCISSORS IN THE OPERATION OF STRABISMUS.

The first case was that of a young man on whom an operation for strabismus had been attempted. The surgeon inadvertently picked up a pair of sharp pointed scissors. The point of the scissors suddenly penetrated the eye-ball and a portion of vitreous as large as a cherry stone escaped. The operation was abandoned and Dr. Derby was called to see the case. The eye was bandaged and the patient put to bed. Several attacks of inflammation supervened, but the patient was discharged on the 41st day with $V = {}^{7}/_{10}$.

In the second case the scissors also entered the sclerotic, but after a somewhat tedious convalescence the wound was found closed on the 21st day with vision as good as before the operation.

Dr. Knapp stated that he had done 3,000 squint operations, and in three cases he had punctured the sclerotic. He, however, completed the division of the muscle and the patients recovered as readily as from an uncomplicated operation.

Dr. Mittendorf had been present at a strabismus operation where the sclera was opened. He advised the surgeon to complete the operation. This was done and the wound had healed in four or five days. He thought that in case the accident happened that the division of the muscle should be completed.

Dr. E. Williams reported a case in which he had punctured the eye. The patient recovered without difficulty.

Dr. E. E. Holt read a paper on

STRABISMUS; ITS CORRECTION WHEN EXCESSIVE, AND IN HIGH DEGREES OF AMBLYOPIA.

The writer had employed advancement of the weakened attenuated muscle in connection with tenotomy, in certain cases of squint, and after tenotomy alone had failed to correct the deviation. He also exhibited an apparatus he had devised for showing the associated and accommodative movements of the eyes and the effects of tenotomy and advancement of the muscle in correcting squint.

Dr. C. J. Kipp at one time employed advancement, but he had given it up because it was difficult to graduate the result.

Dr. W. W. Seely, of Cincinnati, read a paper on

THE TREATMENT OF STRABISMUS INTERNUS.

He said that each year, with its added experience, had strengthened the conviction that early operations (up to the tenth or fifteenth year) are questionable, and possibly should be entirely abandoned. He combatted the idea that crossed eyes never become straight without an operation. Nothing is better established than the relation between ametropia and strabismus, and all recognize the necessity for glasses to prevent the recurrence of squint after tenotomy. Every one knows that it is possible to correct the squint by setting aside the ametropia by means of glasses. My early conviction that something should be left to time and glasses has long since grown into an absolute law of action, for I have become thoroughly persuaded that immediate perfection meant later in life, insufficiency, or even divergence. Operative procedures should not be the first consideration, but should be looked on as an adjuvant to be resorted to later on, if necessary.

He summed up as follows:

1. That with our present light, routine operative interference is wrong.

2. That to thoroughly correct the deviation in young children by operative interference is extremely liable to subject them in after life to insufficiency or external squint.

3. That a later period of life, if anything, favors better results from operative interference.

Dr. Knapp thought advancement a dangerous operation. He had always been able to correct the deviation by two or three tenotomies, and if necessary, stitching the eye to the commissure.

Dr. Theobald endorsed Dr. Knapp's views in reference to advancement. He was surprised at the conclusions of Dr. Seely. Squint operations in his hands had been very satisfactory. If postponed they are likely to prove unsatisfactory on account of the amblyopia which is liable to develop.

Dr. O. F. Wadsworth, of Boston, had studied the subject for a long time and had convinced himself that amblyopia from squint did not occur. The ability of the patient to use the vision which he has does seem to be lost by a continuance of the squint, but it may be recovered by practice. If the examination of vision was carefully made, he was certain that it would be found that the vision was not improved after the operation. It, however, is often difficult to get the full amount of vision which a squinting eye possesses.

Dr. R. H. Derby, of New York, reported a case of

ECTROPION OF BOTH LIDS; BLEPHAROPLASTY BY THE ITALIAN METHOD.

The displacement of the lids was the result of cicatricial tissue from a severe and extensive burn of the face. The lids were loosened from their attachments and the new lids formed from flaps raised from the arm. The arm was bound to the head with water glass plaster, and the pedicle was not divided until union had taken place. Photographs were exhibited showing the appearance of the patient before and after the operation.

Dr. Hasket Derby exhibited a box of

TRIAL LENSES,

made by Nachet, in which the following features were embodied:

1. The doubling of the prisms.

2. The distinguishing of the cylindrical lenses by coloring the positive settings black and the negative red.

3. The adaptation of the trial frames to receive the glasses without removal from the patient's head.

4. The removal of the handles from the prisms and cylindrics.

DR. B. JOY JEFFRIES, of Boston, read a paper entitled

PLASTIC OPERATIONS WITHOUT PEDICLES.

The object of the paper was to make one or two suggestions which the author had not yet put in practice, but which he was ready to try when opportunity offered. He suggested the use of the prepuce from the circumcision of Jewish children for operations about the eyes. He also suggested that in plastic operations the desired result might be obtained without the use of a flap by employing carbolized oil dressings to retard healing, for it is well known that some time after a plastic operation the transplanted tissue has almost entirely disappeared.

(*To be continued.*)

DOMESTIC CORRESPONDENCE

DATA FOR THE HISTORY OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

Sir:—It is sometimes a useful aid, in judging of current events, to project the thoughts into the future and consider the light in which the present will appear in history. With no other than fraternal sentiments, a personal application of this remark is commended to those who have taken an attitude of opposition to the arrangements for the International Medical Congress which is to hold its ninth session in America in 1887. The history of this Congress will be written. This Congress will be regarded hereafter as one of the most important of the events embraced in the annals of American medicine. All the circumstances connected with it will be on record. In this article will be noted, for the benefit of the future historian, facts which have occurred up to the present date. Where could they be more properly chronicled than in the columns of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION?

The American Medical Association, at its stated annual meeting in May, 1884, resolved to invite the Congress which was to meet in Copenhagen in August, to select the United States as the place of meeting for the next Congress. This was resolved unanimously without discussion. A Committee of eight was appointed to tender the invitation. The invitation was tendered and accepted. If we are correctly informed, there was no considerable reluctance manifested in the acceptance of the invitation. Some objections were made on the score of the difficulty of attendance on account of the distance and the expense; but, in fact, no other invitation was before the Congress. Some German members desired the next meeting to be held in Berlin, but no one was authorized to tender an invitation. The same was true of Italy. Here it is to be remarked that in our country there is no existing organized body competent to invite the Congress in behalf of the profession of the United States, except the American Medical Association. Whether it be true or not that this Association represents fairly the profession of the whole country, no other organization has any claim whatever to such a representation. An invitation could come from no other source, unless a convention were to be called for that express purpose.

The functions of the Committee appointed by the American Medical Association did not end with the tender of the invitation. The Committee was authorized to enlarge its membership without limitation and to form a permanent organization. Moreover, it was considered that the resolutions under which the Committee was appointed, empowered it to nominate the officers of the Congress and to make all other arrangements for the meeting without need of any further action on the part of the Association. The Committee, in short, believed that the entire management of the Congress had been committed to it by the Association, and it proceeded to do the work which, according to this belief, devolved upon it. The result of this work is contained in the publication entitled, "International Medical Congress, Ninth Session, to be held in Washington, D. C., in 1887. Rules and preliminary organization." This publication, issued under the sanction of the Committee, was distributed in this country and in other countries. It was not to have been expected that the work of the Committee would be satisfactory to all. Many must have felt that they were overlooked. The distribution of the nominated officers of the Congress could hardly fail to proke criticism. It was hardly possible that errors should not be committed. At the meeting of the American Medical Association, at New Orleans, in April, 1885, the report of the Committee called forth objections in two points of view. One of these related to the geographical distribution of the officers nominated by the Committee. It was objected that certain portions of our vast country were not sufficiently represented. This was certainly not an unnatural objection, for it is needless to say that there exists a certain amount of sectional patriotism or pride, or jealousy, whichever of the terms we choose to apply to it, demanding recognition in all national affairs.

Another objection had reference almost exclusively to one State of the Union—the State of New York. In this State, for the past few years, a portion of the medical profession have revolted from the American Medical Association, and repudiated the Code of Ethics, the acknowledgment of which is a condition of membership of the Association. One-half of the officers nominated for the Congress from the State of New York, were taken from that portion of the profession. This objection was more particularly dwelt upon. These objections gave rise to a heated debate at the meeting of the Association. In this debate warmth of language was used by some, as is generally the case in heated debates, and for this individuals, and not the Association, are to be held responsible. As a result, the Association provided for the appointment of a new Committee consisting of members

representing all the States of the Union and the Territories, with instructions to revise the work of former Committee. The motives of those who raised the objections have been questioned. It is asserted that the objections were raised in consequence of the supposed claims of the objectors not having been duly considered in the organization of the Congress. We shall not stop to discuss this question, as we are here dealing with facts, not motives. Suffice it to say, the Association recognized by a good majority the validity of the objections, whatever may have been the motives of those who were prominent in bringing them forward.

Whether or not it was wise to disturb the proceedings of the first Committee, even assuming the validity of the objections to them, is a question which is certainly open for discussion. There can, however, be no question as to the competency of the Association to do what was done. The invitation was given, it is true, in behalf of the medical profession of the United States. But it was given by the American Medical Association as representing the profession of the United States. The Association assumed responsibility for it. The Association thereby is entitled to credit if the Congress prove successful, and would be liable to censure were the Congress not successful. However unwise the action of the Association may have been, there is no appeal except to the Association itself. In dealing here with historical facts, we do not discuss the wisdom of the action of the Association.

The newly appointed Committee held a meeting in Chicago on the 24th and 25th of June, 1885. This Committee, it is to be noted, included the eight members who constituted the original Committee appointed by the American Medical Association. Following the distinctly expressed wishes of the Association, the Committee in Chicago substituted other names for the names of those nominated by the first Committee who had declared themselves as repudiating the ethics of the Association. Other changes were made with a view to geographical representation, and a certain number of new names were added. Membership of the Congress was restricted to delegates from the American Medical Association, and State and local organizations in affiliation therewith. An official publication of the proceedings of this meeting has not yet appeared, and it is understood that the publication will not appear until after another meeting of the Committee, which it is expected will take place within a few weeks. This delay, as is seen by an editorial in a recent number of the JOURNAL, is for a further consideration of new nominations, and a revisal of the rules of the Congress.

We come now to occurrences which to the future readers of the history of the Ninth International Congress will seem truly remarkable. Directly after the meeting of the Committee at Chicago, five of its members, who had been members of the original Committee, sent their resignations to the Secretary. These resignations taking place after the adjournment of the Committee, the vacancies could not be promptly filled, and the effect, whether so intended or not, was to cripple the Committee in obtaining a quorum for a subsequent meeting. Simultaneously, or nearly so, with this action, several members of the medical profession in Philadelphia, who had been nominated for official positions, held a meeting and agreed to decline any connection with the Congress under the existing organization. An announcement of this agreement was published without delay in the medical journals of New York as well as Philadelphia. Similar meetings took place in rapid succession in Washington, Boston, and Baltimore, at which similar resolutions were adopted and immediately furnished for publication. The resolutions adopted in these several cities are essentially the same, differing only in phraseology. They do not contain any explicit statement of complaints or grievances. From other sources it appears that dissatisfaction with the persons who compose the present Committee, and especially with the Secretary and Chairman, enters largely into the reasons for declining to accept any position in the Congress. The writer is not prepared to discuss this ground of opposition, were it decorous to do so. It must be said, however, of the Committee, that it apparently sought only to carry out the views of the American Medical Association, and has not nominated its members to important positions in the Congress. Moreover, the functions of the Committee in a great measure end when the organization of the Congress is completed. The work which then remains to be done, devolves chiefly on the Secretary-General and other officers nominated by the Committee. It cannot, therefore, be said that the officers and other members of the Committee have taken any advantage of the opportunity to secure for themselves official positions. Their ambition seems not to have extended beyond the privilege of placing others in these positions, and the exercise of this privilege imposes upon most of them considerable inconvenience and expense. An objection to the Committee has been raised on the ground that it designs to restrict improperly the conditions for membership of the Congress. As the proceedings of the Committee have not been published, and moreover, their action in regard to the rules of the Congress is not yet completed, this objection is, to say the least, premature. The American Medical Association enjoined upon the Committee the duty of not nominating as officers of the Congress those who have repudiated the ethics of the Association. This restriction does not extend to membership of the Congress. From all that is at present known of the views of the Committee, it may be inferred that there will be no restrictions, as regards membership, on members of the regular profession. This is in accordance with the custom hitherto at the meetings of the International Medical Congress.

There seems to be no valid reason for complaint on the part of those who have made haste to announce their antagonism to the Congress, unless the elimination from official position of those who have disqualified themselves from membership of the American Medical Association be so considered. How many of those who have united to oppose the Congress are willing to admit this as the reason of their action? Practically, however, their action

sanctions and encourages those who have attempted to break down the barrier between the regular profession and those who ostensibly practice homœopathy or other exclusive systems of medicine, and it virtually rebukes those who have so earnestly and successfully labored for the honor of the medical profession by sustaining the National Code of Ethics. Have all those who decline connection with the Congress under its present organization, reflected upon their action in these points of view? They cannot have given the matter due consideration. Nothing disrespectful is intended in saying that they have acted with undue haste. How often, under a temporary excitement based on misapprehensions, are conclusions formed and measures taken, which are reconsidered and relinquished after a little sober reflection!

A similar action, in quick succession, in several cities, of members of the medical profession, shows undoubtedly a concerted movement. Now concerted movements are for certain definite objects. What are the objects in the present instance? It is not to be supposed that they who have joined in this movement have done so purely from a desire to bring discredit on the profession of the United States by placing obstacles in the way of the success of the Congress. We will not venture to surmise the objects, but leave them for the future historian of the Congress. Whatever they may be, there are certain considerations which, with reference to the movement, it behooves the reflecting members of the medical profession of the United States to bear in mind. One of these is the certainty of the meeting of the International Congress in 1887. At the present moment an International Congress does not exist. The Eighth Congress existed and ceased to exist in August, 1884. The Ninth Congress will exist in America in September, 1887, and meanwhile there is no organization competent to appoint any other time or place for its coming into existence. It is true the American Medical Association at its next meeting might publish to the world that it recalled the invitation to meet in this country in 1887. Does any one suppose that this will be done?

Another consideration relates to the officers of the Congress. The work of the Congress will devolve upon certain of its officers, viz: the President, the Secretary-General, the Chairmen and Secretaries of the different sections, the Finance Committee, the Executive Committee, and the local committee of arrangements. The Vice-Presidents, Secretaries, and members of the Council may be said to be ornamental, inasmuch as they are exempt from active responsibility. Now, there is no lack of members of the medical profession in this country competent to do the active work of the Congress. The success of the Congress is not dependent upon a limited number of the members of our profession, however distinguished they may be for professional attainments or however desirable may be their coöperation. There can be no risk of failure from inability to fill worthily the places of responsibility. This is as true of our country as it was of England in 1881. The offices in the English Congress were admirably filled; but who can doubt that hundreds of physicians and surgeons in Great Britain would have filled these offices worthily? The success of the Congress, so far as it depends on the resources of our own country, is to be promoted more by contributions to the subjects belonging to the several sections than by the selection of officers.

It seems to be a notion with some that the attendance on the Congress of foreign members will be greatly affected by the nominations for officers, and that troubles connected with the organization of the Congress will deter many from attending. This idea is too absurd to call for discussion. The organization of the Congress in other countries probably encountered more or less local jealousies and intrigues. What cared we for these? And what will the profession of other countries care for our local difficulties? Our transatlantic brethren, it must be admitted, are more discreet than we are as regards the washing of soiled linen. They are less inclined to give publicity to local or personal bickerings; and it is to be hoped that those connected with the medical press will take no notice of what properly belongs within the limits of domestic privacy.

The Ninth International Medical Congress, it is safe to predict, will be a success whatever may be the obstacles to be overcome. The medical profession of the United States will not be satisfied to have this Congress fail to be successful. But let it be considered that the success will be the more complete, and thereby more gratifying, more creditable, and more useful, the nearer the approach to unanimity in the efforts of the profession of the whole country to make it successful. Who will say that Surgeon J. S. Billings misrepresented the medical profession of the United States when he assured the Congress at Copenhagen that his "countrymen would do their best to secure that the future Congress should effect as much as possible for the advancement and coördination of medical science?"[1] * * *

NECROLOGY.

JOHN STAIGE DAVIS, A.M., M.D.

Died, at his residence at the University of Virginia, on July 18, John Staige Davis, Professor of Anatomy and Materia Medica in the University. He was stricken with left hemiplegia and left hemianæsthesia, with some degree of amnesic aphasia, on May 13, and his condition was very critical for about two weeks, when it became more favorable. Subsequently, however, there was a second stroke of paralysis, and death took place on July 18.

John Staige Davis was born in Albemarle Co., Virginia, on October 1, 1824, and was therefore in his sixty-first year at the time of his death. From early childhood he was a close and earnest student, as shown by the fact that he received his degree of Master of Arts at the University of Virginia at the early age of 17 years, and his Medical degree at the

[1] The Social History of the Eighth International Medical Congress, by D. Bryson Delavan, M.D.

same institution one year later, July 4, 1841. From this time until December, 1842, he was a student in one of the hospitals in Philadelphia. He then settled in Jefferson Co., Virginia (now West Virginia), whence he removed to Charlottesville, near the University of Virginia, in January, 1845. From 1845 until 1849 he filled the place of Demonstrator of Anatomy in the University, and in 1849 he took the Chair of Anatomy and Materia Medica. The amount of work which fell to his care was now enormous, as the medical class of that year numbered 127, and Professor Davis was without a Demonstrator of Anatomy. His duties were efficiently and ably performed however, to the satisfaction of both the pupils and the Faculty.

As a lecturer and teacher, Dr. Davis has had few equals in America. Several years ago an eminent physician and professor said of him: "I studied anatomy under Dr. Davis, and then went abroad, where I sat under the most eminent anatomists of Europe. Cruveilhier was the peer of them all, but Dr. Davis, as a teacher and lecturer, is easily the peer of Cruveilhier." Nor was his personal popularity exceeded, among his students, by his popularity as a teacher. With but very few exceptions, the feelings of his classes towards him were those of respect and love. He was a kind and affectionate friend, and his death will be deeply deplored by many personal friends and pupils, and by the friends of the University of Virginia.

BOOK REVIEWS.

MANUAL OF THE ANTISEPTIC TREATMENT OF WOUNDS FOR STUDENTS AND PRACTITIONERS. By W. WATSON CHEYNE, M. B., F. R. C. S., Assistant Surgeon to King's College Hospital, etc. 8vo., pp. xiii, 151. With illustrations. New York: J. H. Vail & Co., 1885.

This manual, the author tells us, is written with the view of enabling students to obtain a thorough knowledge of the practical details of the best methods of treating wounds. The nine chapters treat of Repair and Dangers of Wounds, Bacteria and Disease, Destruction of Bacteria, Aseptic Surgery—Materials Employed, Aseptic Surgery (two chapters), Aseptic Surgery—Modifications, Antiseptic Surgery. Before reading this little book we had not thought it possible that so much detailed information could be crowded into so small a space, and without any appearance of crowding, and scarcely of condensation. Mr. Cheyne has the happy faculty, however, which is by far too uncommon with writers, of knowing when he has come to the end of an argument, Of this book it may be said, as of his other writings, that it is condensed without being abrupt, it is detailed without verbosity, and all the instructions are given with a clearness that is particularly refreshing. The oldest and most accomplished surgeon will be repaid for the reading of it, while to the young surgeon it is absolutely indispensable; and even those who do not practise antiseptic methods will learn much from it. It is completed by a good index.

THE PATHOLOGY AND TREATMENT OF STRICTURE OF THE URETHRA AND URINARY FISTULÆ. By SIR HENRY THOMPSON, F. R. C. S., M. B. Lond., etc. Fourth Edition. 8vo., pp. xii, 254. Philadelphia: P. Blakiston, Son & Co., 1885. Chicago: W. T. Keener.

This book is a complete revision of the essay to which the Jacksonian Prize was awarded in 1852; a revision brought up to May, 1885, and with the addition of a chapter on Urinary Abscess, and one on Urinary Fever, and with many additional illustrations. It is scarcely necessary to say that the subjects are treated of in detail: whatever Sir Henry Thompson writes is worth buying, and should be closely studied.

ASSOCIATION ITEMS.

SPECIAL MEETING.

Committee of the American Medical Association on International Medical Congress:—The Committee appointed in accordance with resolutions passed at New Orleans will meet in special session for the transaction of urgent business, at Murray Hill Hotel, Park avenue and Forty-First st., New York City, at 12 o'clock, M., on Thursday, September 3, 1885.

The attention of members is called to the following resolution offered by Dr. Robert Battey, of Ga., and adopted at the meeting in Chicago.

Whereas, It is expedient that the meetings of this Committee shall represent, as far as practicable, the profession of all portions of our country,

Resolved, That any member of this Committee who may be unable to attend a meeting shall be empowered to send as his proxy for the meeting, any member of the American Medical Association in good professional standing, and a resident of his State, or a member of his Government Department.

R. BEVERLY COLE, *Chairman.*
JNO. S. LYNCH, *Vice-Chairman.*
JOHN V. SHOEMAKER, *Secretary.*

Philadelphia, Pa., July 24, 1885.

MEMBERSHIP BY APPLICATION.

At the meeting of the American Medical Association held at Washington, in May, 1884, an amendment to Regulation II was adopted, which provides that membership in the Association shall be obtainable by any member of a State or County Medical Society recognized by the Association, upon application endorsed by the President and Secretary of said Society; and shall be retained so long as he shall remain in good standing in his local Society, and shall pay his annual dues to the Association. Hitherto attendance as a delegate at an annual meeting has been necessary in order to obtain such membership.

Application for membership, accompanied with FIVE DOLLARS, for annual dues, and the Certificate of Membership in the local Society, should be sent directly to the undersigned, on receipt of which the weekly JOURNAL OF THE ASSOCIATION will be forwarded for one year.

RICHARD J. DUNGLISON, M.D., *Treasurer.*
Lock Box 1274, Philadelphia, Pa.

MISCELLANEOUS.

NEW YORK STATE MEDICAL ASSOCIATION—FIFTH DISTRICT BRANCH.—The first *annual* meeting of the Fifth District Branch will be held in Brooklyn, on Tuesday, October 13th, 1885. There will be a morning and afternoon session.

All Fellows desiring to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens, are respectfully invited to notify the Secretary, E. H. Squibb, M. D., 36 Doughty Street, Brooklyn, to that effect at their earliest convenience.

DEATHS FROM CHOLERA IN SPAIN.—The United States Consul at Barcelona, Spain, makes the following report to the Marine Hospital Bureau of the number of deaths from cholera in the infected districts of Spain from the beginning of its appearance (March 4) to July 4, 1885:

Provinces.	*Cases.*	*Deaths.*
Alicante	1,588	646
Castellon	2,617	1,277
Cuenca	78	40
Madrid	1,700	753
Murcia	6,007	2,319
Tarragona	31	19
Fernel	12	5
Toledo	455	207
Valencia	14,928	6,801
Saragossa	628	280
Total	28,044	12,347

[Up to July 18th the deaths were 18,000; to July 25 more than 25,000; and the average of new cases is now over 2,500 daily, with 1,000 deaths.]

CREMATION IN GERMANY.—The Berlin correspondent of the *British Medical Journal* says that at the meeting of the Berlin Verein für Innere Medicin on June 1st, a petition, drawn up by the Cremation Society, to be presented to the Reichstag, was laid on the table for signature. The object of the petition is to obtain the passing of a law by which cremation may be legal, though not compulsory, in Germany. The petition gives various reasons in favor of cremation; the chief one being "that the latest studies of well known authorities in Germany and abroad in the field of hygiene have clearly proved that cremation is the safest preventive against the spread of infectious diseases by corpses." The petition was signed by several of those present at the meeting.

MISSOURI STATE BOARD OF HEALTH.—The following is an abstract from Circular No. 1, recently issued by the Board: In order that the State Board of Health may receive prompt and effective support and coöperation, and in view of the continually impending menace of a cholera visitation, it is respectfully requested and urged upon citizens of counties and towns that they promptly meet and organize county and town boards of health for their own safety and protection. A simple and feasible plan for such an organization in counties where none exist is for the presiding justice of the county court to be made its President, the county clerk Secretary, with three reputable physicians added, one of whom may be officially designated as health officer, and whose powers and duties shall be clearly defined and specified. When such an organization is effected, it is respectfully requested that prompt notice of the same be sent to this Board.

STUDENTS OF THE BERLIN UNIVERSITY.—The number of students matriculated at the Berlin University this term exceeds that hitherto attained in any preceding term. In the summer of 1873 there were only 1,590 students in the books; in 1880, the number amounted to 3,365; and this year it has reached 5,465. Comparing the figures in the Faculty of Medicine, we find 340 inscribed in 1873, 924 last year, and this summer 1,072. There are 11 students from Great Britain, and 89 from America.

OFFICIAL REGISTRY OF MISSOURI.—The Executive Committee of the Missouri State Board of Health have issued the following:

In anticipation of the publication of the Official Registry of Physicians, Surgeons and Midwives of Missouri, which matter was referred to the Executive Committee by the Board—the work to be undertaken so soon as it may be found practical to do so—it is respectfully urged upon all practitioners of medicine, etc., who may be entitled to register under the existing law, but who have failed or neglected to do so, to send their names to the Secretary at an early date, in order that the list may be as full and accurate as possible, as well as to secure to themselves the legitimate benefit of publication in the said official registry.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 18, 1885, TO JULY 24, 1885.

Captain Norton Strong, Assistant Surgeon, ordered for temporary field duty with battalion 8th Cav. at Hillsboro, N. M. (S. O. 34, Hdqrs. Dist. of N. M., June 27, 1885.)

Captain F. W. Elbrey, Assistant Surgeon, sick leave of absence further extended four months on surgeon's certificate of disability. (S. O. 162, A. G. O., July 17, 1885.)

First Lieutenant Edward Everts, Assistant Surgeon, ordered for duty as post surgeon, Ft. McDermit, Nev.

First Lieutenant A. S. Polhemus, Assistant Surgeon, ordered for duty as post surgeon, Benicia Barracks, Cal.

Captain C. K. Winne, Assistant Surgeon, ordered for duty at Benicia Arsenal, Cal. (S. O. 68, Dept. Cal., July 11, 1885.)

First Lieutenant Edward Everts, Assistant Surgeon, ordered for duty as post surgeon, Benicia Bks., Cal.

Captain C. K. Winne, Assistant Surgeon, ordered for duty at Benicia Arsenal, Cal. Par. 3, S. O. 70, Dept. Cal., July 15, 1885. (Modifies par. 2, S. O. 68 c. s., Dept. Cal.)

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDED JULY 25, 1885.

Fessenden, C. S. D., Surgeon, leave of absence extended eight days on account of sickness, July 20, 1885.

Irwin, Fairfax, Passed Assistant Surgeon, granted leave of absence for ten days, July 14, 1885, to inspect unserviceable property at St. Louis, Mo., July 15, 1885.